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3	MP-1	DEMOLITION PLANS
4	MP-2	DEMOLITION PLANS
5	MP-3	DEMOLITION PLANS
6	MP-4	DEMOLITION PLANS
7	MP-5	FLOOR PLAN
8	MP-6	FLOOR PLANS AND ROOF PLAN
9	MP-7	FLOOR PLANS AND ROOF PLAN
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24	E-11	ONE-LINE DIAGRAM II
25	E-12	ONE-LINE DIAGRAM III
26	E-13	ONE-LINE DIAGRAM IV

CITY OF AUSTIN, TEXAS
AUSTIN WATER

PROJECT INFORMATION:
STREET ADDRESS:
3500 WEST 35TH STREET
AUSTIN, TX 78703

OWNER:
CITY OF AUSTIN
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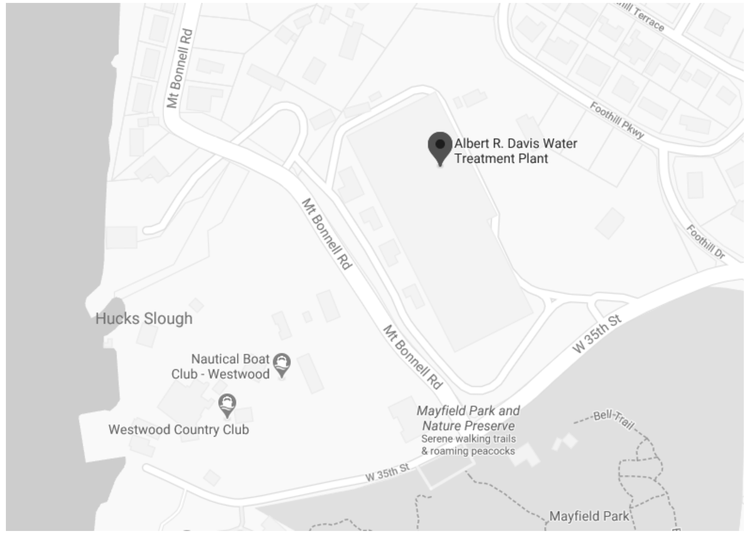
DAVIS WATER TREATMENT PLANT
GAS HEATER REPLACEMENT

C.I.P PROJECT NUMBER: 2015.078
SOLICITATION NUMBER: TBD

FEBRUARY 1, 2021
ISSUE FOR BID



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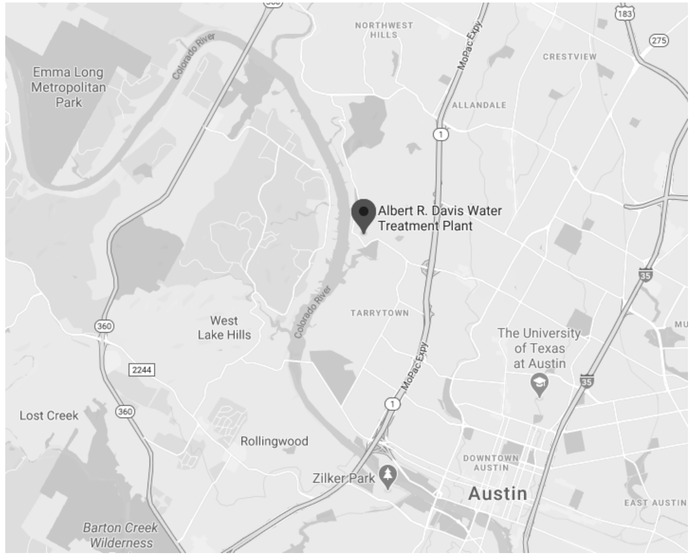
NOT TO SCALE



VICINITY MAP
NOT TO SCALE

SUBMITTAL PREPARED BY:

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Austin, Texas 78759
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Freese and Nichols, Inc. Texas Board of Professional Engineers Reg. No. 2144

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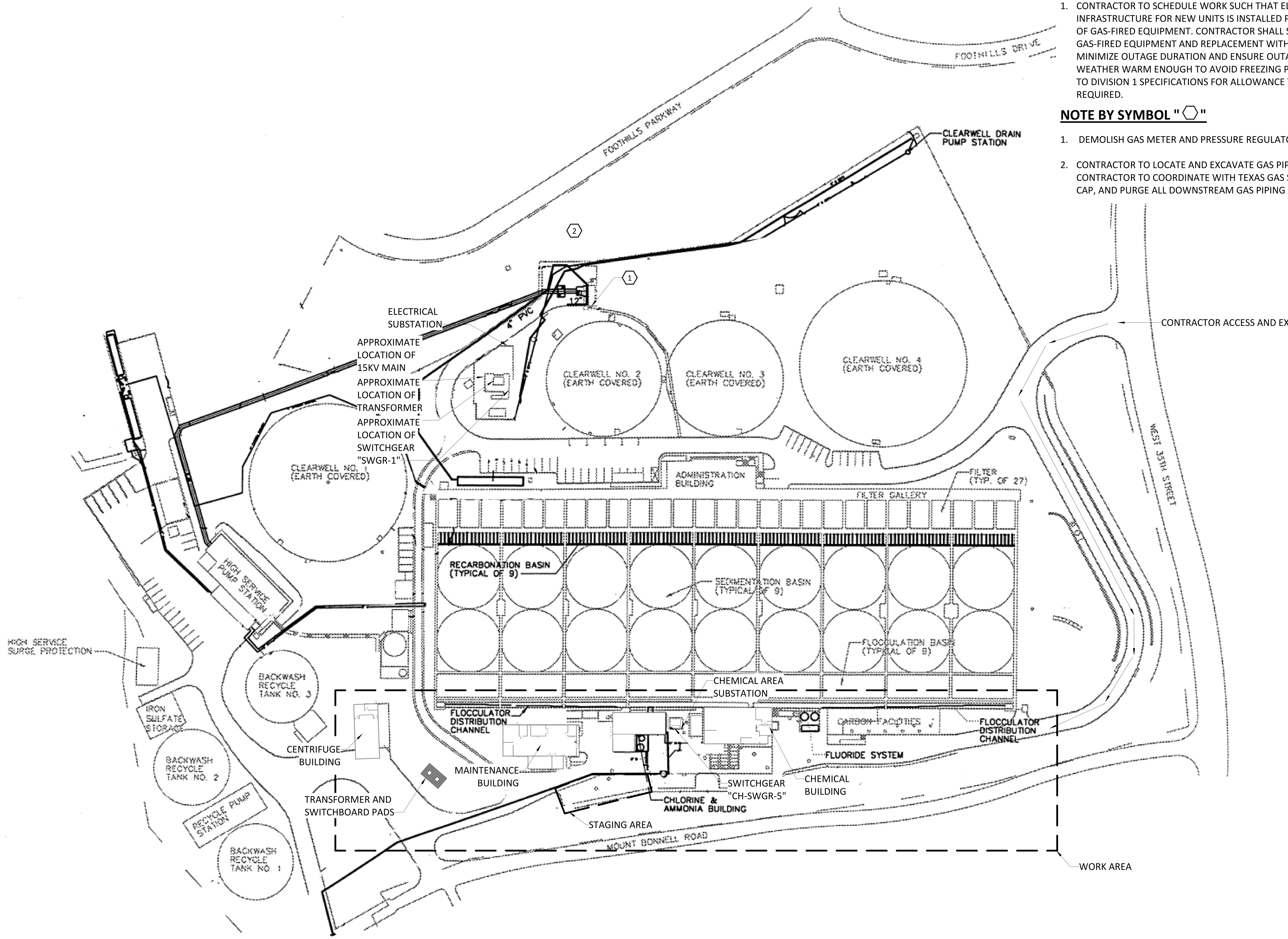
FNI PROJECT NO. AU120400

STATE OF TEXAS
SATISH KUMAR RAVINDRAN
115979
LICENSED PROFESSIONAL ENGINEER
2/1/2021

CITY OF AUSTIN | DAVIS WATER TREATMENT PLANT | FNI PROJECT NO. AU120400 | 100% SUBMITTAL | DECEMBER 22, 2020



1 SITE PLAN
NOT TO SCALE

GENERAL NOTES:

1. CONTRACTOR TO SCHEDULE WORK SUCH THAT ELECTRICAL AND CONTROL INFRASTRUCTURE FOR NEW UNITS IS INSTALLED PRIOR TO DEMOLITION OF GAS-FIRED EQUIPMENT. CONTRACTOR SHALL SCHEDULE REMOVAL OF GAS-FIRED EQUIPMENT AND REPLACEMENT WITH NEW EQUIPMENT TO MINIMIZE OUTAGE DURATION AND ENSURE OUTAGES OCCUR DURING WEATHER WARM ENOUGH TO AVOID FREEZING PROCESS PIPING. REFER TO DIVISION 1 SPECIFICATIONS FOR ALLOWANCE TO RESTORE GAS IF REQUIRED.

NOTE BY SYMBOL "⬡"

1. DEMOLISH GAS METER AND PRESSURE REGULATOR.
2. CONTRACTOR TO LOCATE AND EXCAVATE GAS PIPE AT PROPERTY LINE. CONTRACTOR TO COORDINATE WITH TEXAS GAS SERVICE TO CUT LINE, CAP, AND PURGE ALL DOWNSTREAM GAS PIPING AT THE PLANT.

Freese and Nichols, Inc.
Texas Registered Engineering Firm F- 2144

STATE OF TEXAS
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CITY OF AUSTIN
DAVIS WATER TREATMENT PLANT
GENERAL
SITE PLAN

F&N JOB NO.	AU120400
DATE	2/1/2021
DESIGNED	SKR
DRAWN	RLP
REVISED	
CHECKED	RMVR
FILE NAME	EL-AU120400-R19

NO.	ISSUE	BY	DATE

VERIFY SCALE 0 1 Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.

SHEET G-1
SEQ.

NORTH

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HVAC SYMBOLS (ALL SYMBOLS SHOWN ARE NOT NECESSARILY USED ON THE DRAWINGS)

ABBREVIATIONS

A/C	AIR CONDITIONING	HZ	HERTZ
AFF	ABOVE FINISHED FLOOR	HP	HORSEPOWER
AI	ANALOG INPUT	HTG	HEATING
AO	ANALOG OUTPUT	IN	INCHES
APPROX	APPROXIMATELY	KW	KILOWATT
ARCH	ARCHITECTURE/ARCHITECTURAL	LAT	LEAVING AIR TEMPERATURE
AV	ANALOG VALUE	LWT	LEAVING WATER TEMPERATURE
BI	BINARY INPUT	MAX	MAXIMUM
BHP	BRAKE HORSEPOWER	MECH	MECHANICAL
BO	BINARY OUTPUT	MCA	MINIMUM CIRCUIT AMPACITY
BOD	BOTTOM OF DUCT	MBH	THOUSANDS BTU's PER HOUR
BTUH	BRITISH THERMAL UNIT PER HOUR	MIN	MINIMUM
BV	BINARY VALUE	NFPA	NATIONAL FIRE PROTECTION ASSOC.
C	CELSIUS	NC	NOISE CRITERIA
CC	COOLING COIL	NOM	NOMINAL
CFM	CUBIC FEET PER MINUTE	NTS	NOT TO SCALE
CD	CONDENSATE DRAIN	NO	NUMBER
CONN	CONNECTION	N.C.	NORMALLY CLOSED
dB	DECIBELS	N.O.	NORMALLY OPEN
DI	DIGITAL INPUT	OA	OUTSIDE AIR
DIA	DIAMETER	P/PH	PHASE
DB	DRY BULB	PLBG	PLUMBING
DDC	DIRECT DIGITAL CONTROL	PSI	POUNDS PER SQUARE INCH
DEG	DEGREE	RE	REFER/REFERENCE
DO	DIGITAL OUTPUT	RA	RETURN AIR
DX	DIRECT EXPANSION	RPM	REVOLUTIONS PER MINUTE
DWGS	DRAWINGS	SMACNA	SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOC.
ELEC	ELECTRIC/ELECTRICAL		
EAT	ENTERING AIR TEMPERATURE	SQ FT	SQUARE FEET
EWT	ENTERING WATER TEMPERATURE	SP	STATIC PRESSURE
EFF	EFFICIENCY	SA	SUPPLY AIR
EL	ELEVATION	TEMP	TEMPERATURE
EMCS	ENERGY MONITORING AND CONTROL SYSTEM	T-STAT	THERMOSTAT
EXH	EXHAUST	TYP	TYPICAL
F	FAHRENHEIT	VAV	VARIABLE AIR VOLUME
FLEX	FLEXIBLE	VFD	VARIABLE FREQUENCY DRIVE
FPM	FEET PER MINUTE	VD	VOLUME DAMPER
FT	FEET, FOOT	WT	WATTS
G	GAS	WTR	WATER
GPM	GALLONS PER MINUTE	WC	WATER COLUMN
HC	HEATING COIL	WG	WATER GAUGE
HVAC	HEATING, VENTILATION AND AIR CONDITIONING	WB	WET BULB

PLUMBING LEGEND

SYMBOL	DESCRIPTION	ABBREVIATION
XX XX	EXISTING PIPING TO BE REMOVED (DEMO PLAN ONLY) (INDICATE SERVICE TYPE)	
XX XX	EXISTING PIPING TO REMAIN (INDICATE SERVICE TYPE)	
PLAN/DETAIL NUMBER X -	DRAWING/DETAIL REFERENCE	RE: X/PX

NOTE: ALL SYMBOLS AND ABBREVIATIONS SHOWN ARE NOT NECESSARILY USED ON THE DRAWINGS.

PLUMBING GENERAL NOTES

1. THIS PROJECT IS DESIGNED BASED ON THE FOLLOWING CODES: UNIFORM PLUMBING CODE 2015, WITH LOCAL AMENDMENTS, INTERNATIONAL ENERGY CONSERVATION CODE 2015, WITH LOCAL AMENDMENTS.
2. COORDINATE ALL SLAB PENETRATIONS AND SLEEVES PRIOR TO EACH CONCRETE POUR. VERIFY EXACT LOCATION OF CONCRETE FLOOR "LEAVE-OUTS" FOR OPTION 1 PLUMBING FIXTURE ROUGH-INS.
3. PROVIDE ACCESS DOORS FOR INSTALLATION IN WALLS AND CEILINGS WHERE ACCESS IS REQUIRED TO CONCEALED PLUMBING EQUIPMENT, VALVES, CONTROLS AND OTHER DEVICES.
4. INSTALL PIPING TO PROVIDE THE MAXIMUM POSSIBLE CLEAR HEIGHT UNDERNEATH. MAINTAIN A MINIMUM OF 10 INCHES ABOVE FINISHED CEILING TO PROVIDE CLEARANCE FOR LIGHTING FIXTURES.
5. COORDINATE THE EXACT LOCATION OF FLOOR DRAINS WITH THE MECHANICAL EQUIPMENT LOCATIONS PRIOR TO INSTALLATION OF DRAINS.
6. COORDINATE WORK WITH ARCHITECTURAL FEATURES, PIPING, EQUIPMENT, MECHANICAL WORK, ELECTRICAL WORK, AND BUILDING STRUCTURE TO AVOID INTERFERENCES.
7. PROVIDE RATED INTUMESCENT CAULK OR PUTTY AT ALL FIRE RATED PENETRATION LOCATIONS, INCLUDING BUT NOT LIMITED TO STAIRWELLS, CORRIDORS, AND MECHANICAL OR ELECTRICAL EQUIPMENT ROOMS. ESCUTCHEONS ARE NOT REQUIRED, EXCEPT IN EXPOSED LOCATIONS. HOWEVER THE CAULK OR PUTTY SHALL BE INSTALLED SMOOTH AND FLUSH TO THE SURROUNDING SURFACE.
8. MINIMUM SLOPE FOR DRAINAGE PIPE WITHIN 5'-0" OF BUILDING IS 1/4" PER FOOT FOR 2-1/2" DIAMETER AND LESS AND 1/8" PER FOOT FOR 3" DIAMETER AND GREATER. MINIMUM SLOPE FOR DRAINAGE PIPE BEYOND 5'-0" OF BUILDING IS 1%.

DUCTWORK SYMBOLS

- SUPPLY AIR DIFFUSER - ARROWS INDICATE PATTERN. NO ARROWS SHOWN EQUALS 4-WAY.
- RETURN/TRANSFER AIR GRILLE
- EXHAUST GRILLE
- SUPPLY AIR PLENUM SLOT DIFFUSER
- 12" — ROUND DUCTWORK
- 12/12 — RECTANGULAR DUCTWORK. SIZE INDICATED IN INCHES, FIRST NUMBER IS SIDE SHOWN
- FLEXIBLE DUCT
- RADIUS DUCTWORK ELBOW ROUND OR RECTANGULAR
- RECTANGULAR DUCTWORK BRANCH TAKE-OFF W/DAMPER AND 45 DEGREE BRANCH INLET
- FLARED SPIN-IN TAP WITH DAMPER
- SPIN-IN TAP WITH DAMPER
- ROUND DUCT BRANCH TAKE-OFF FROM RECTANGULAR OR FLAT OVAL MAIN WITH CONICAL TAP. PROVIDE BALANCE DAMPER FOR LOW PRESSURE DUCTWORK ONLY
- DUCTWORK SIZE TRANSITION.
- FLEXIBLE DUCT CONNECTION TO EQUIPMENT
- SUPPLY AIR DUCT UP
- SUPPLY AIR DUCT DOWN
- RETURN AIR DUCT UP
- RETURN AIR DUCT DOWN
- RELIEF OR EXHAUST AIR DUCT UP
- RELIEF OR EXHAUST AIR DUCT DOWN
- 90° ELBOW WITH TURNING VANES
- M — MOTORIZED DAMPER
- MANUAL VOLUME (BALANCE) DAMPER
- FD — FD - FIRE DAMPER; SD - SMOKE DAMPER; CD - COMBINATION FIRE/SMOKE DAMPER

PLAN SYMBOLOGY

NEW PLANS		DOUBLE LINE
DUCTWORK	EXISTING TO REMAIN	
	DEMOLITION	
	NEW	
PIPING	EXISTING TO REMAIN	
	DEMOLITION	
	NEW	

EQUIPMENT DESIGNATIONS

ACCU	AIR-COOLED CONDENSING UNIT
AC	AIR CONDITIONER
AHU	AIR HANDLING UNIT
G	GAS PIPE
GFH	GAS FIRED HEATING UNIT
GFWH	GAS FIRED WATER HEATER
GUH	GAS UNIT HEATER
HP	HEAT PUMP
MAU	MAKE-UP AIR UNIT
WH	WATER HEATER (ELECTRIC)

MISCELLANEOUS

- A200 — DIFFUSER/GRILLE/REGISTER LABEL: "A" - TYPE/DESIGNATION; "200" - AIRFLOW (CFM)
- T — THERMOSTAT (LOCAL CONTROL "X" INDICATES ZONE)
- S — DUCT SMOKE DETECTOR
- DRAWING NOTE REFERENCE
- ϕ — DIAMETER/PHASE
- POINT OF NEW CONNECTION BETWEEN NEW AND EXISTING WORK
- X — SENSOR WITH LOCKING PROTECTIVE GUARD

HVAC GENERAL NOTES

1. THIS PROJECT IS DESIGNED BASED ON THE FOLLOWING CODES: INTERNATIONAL BUILDING CODE 2015, UNIFORM MECHANICAL CODE 2015, INTERNATIONAL ENERGY CONSERVATION CODE 2015, ASHRAE 62.1 AND ANY LOCAL AMENDMENTS.
2. ALL INFORMATION REQUIRED FOR DESIGN MAY NOT BE COVERED IN THE DRAWINGS. REFER TO DIVISION 23 TECHNICAL SPECIFICATIONS AND OTHER RELATED SECTIONS FOR ADDITIONAL INFORMATION.
3. ALL DUCT SIZES SHOWN ON THE DRAWINGS ARE NET INSIDE CLEAR DIMENSIONS.
4. UTILIZE LONG RADIUS ELBOWS WHERE SPACE PERMITS UNLESS OTHERWISE NOTED. ALL RECTANGULAR ELBOWS SHALL CONTAIN TURNING VANES.
5. COORDINATE WITH OTHER UTILITIES TO AVOID INTERFERENCES WHEN INSTALLING DUCTWORK, PIPING AND EQUIPMENT.
6. FURNISH AND INSTALL ALL EQUIPMENT AS PER MANUFACTURER'S RECOMMENDATIONS AND INSTRUCTIONS. PROVIDE MODIFICATIONS AND ACCESSORIES AS REQUIRED AND RECOMMENDED BY THE MANUFACTURER TO ASSURE PROPER OPERATION OF THE EQUIPMENT.
7. VERIFY DIMENSIONS, LOCATIONS, ELEVATIONS AND CONFIGURATION OF ALL ITEMS ASSOCIATED WITH THE INSTALLATION OF DUCTWORK AND EQUIPMENT.
8. EQUIPMENT, DUCTWORK AND PIPING SHALL NOT BE SUPPORTED OR SECURED TO OTHER EQUIPMENT, DUCTWORK, PIPING OR OTHER UTILITIES.
9. PAINT ALL EQUIPMENT VISIBLE THRU AIR DEVICES MATT BLACK.
10. PROVIDE MANUAL VOLUME DAMPERS IN ALL DUCTWORK AT ALL DUCT SPLITS, BRANCH RUNOUTS AND DUCT COLLARS FOR REGISTERS. ALL MANUAL DAMPERS MAY NOT BE SHOWN ON DRAWINGS.
11. ALL DUCTWORK SHALL BE CONSTRUCTED, SEALED AND INSTALLED IN CONFORMANCE TO SMACNA DUCT CONSTRUCTION STANDARDS.
12. TO RESOLVE FIELD PROBLEMS IN ROUTING DUCTWORK THE CONTRACTOR SHALL USE THE SAME CIRCULAR EQUIVALENT DIAMETER TO TRANSFORM DUCT SIZE FROM THAT SPECIFIED ON THE DRAWINGS.

$$DE = \frac{1.30\,(AB)^{0.625}}{(A+B)^{0.250}}$$

DE = CIRCULAR EQUIVALENT OF RECTANGULAR DUCT IN INCHES
A = LENGTH OF ONE SIDE OF DUCT IN INCHES
B = LENGTH OF OTHER SIDE OF DUCT IN INCHES

13. PROVIDE FIRE DAMPERS IN DUCTWORK AT ALL FIRE BARRIER PENETRATIONS. PROVIDE ACCESS DOORS IN DUCTWORK TO VIEW AND SERVICE FIRE DAMPERS PER SMACNA AND APPLICABLE LOCAL CODES.
14. PROVIDE FIRE RESISTANT FLEXIBLE CONNECTION WHENEVER DUCTWORK IS CONNECTED TO MOTORIZED EQUIPMENT.
15. DUCT MATERIAL SHALL BE ALUMINUM WITH METAL THICKNESS AS PER SMACNA CONSTRUCTION STANDARDS.
16. PROVIDE OSHA-REQUIRED CLEARANCES AROUND ALL HVAC EQUIPMENT AND COMPONENTS FOR PERSONNEL ACCESS AND MAINTENANCE.
17. ALL PIPE HANGERS AND SUPPORTS SHALL COMPLY WITH MANUFACTURER'S STANDARDIZATION SOCIETY (MSS) STANDARDS. VERTICAL PIPES MUST BE SUPPORTED AT EACH FLOOR WITH PIPE CLAMPS.
18. INSULATE BACKS AND PLENUMS OF COLD SUPPLY AIR DEVICES WITH MINIMUM 1" MINERAL FIBER.
19. ALL AIR MOVING EQUIPMENT CONTAINING PARTICULATE FILTERS SHALL NOT BE OPERATED WITHOUT PARTICULATE FILTERS IN PLACE.
20. ADD DIELECTRIC CONNECTIONS BETWEEN PIPES OF DIFFERENT METALS.
21. MAINTAIN A VERTICAL SLOPE OF 1/8" PER FOOT IN THE DIRECTION OF FLOW FOR ALL HORIZONTAL CONDENSATE DRAIN PIPING.
22. INSTALL ALL PIPING PARALLEL TO BUILDING LINES UNLESS STATED OTHERWISE IN DRAWINGS.
23. ALL ABOVE CEILING EQUIPMENT, DUCTWORK AND PIPING AND ASSOCIATED DEVICES (VALVES, DAMPERS, ETC.) SHALL BE SUPPORTED FROM DECK AND THAT THEY SHALL BE ACCESSIBLE BY A 5' TALL PERSON STANDING ON A LADDER.
24. FOR AHU'S >2000CFM, PROVIDE SMOKE DETECTORS IN THE SUPPLY AIR AND RETURN AIR DUCTS. DUCT SMOKE DETECTORS SHALL SHUT DOWN UNIT UPON ACTIVATION. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR MOUNTING THE SMOKE DETECTORS IN ACCORDANCE WITH MANUFACTURERS PRINTED INSTRUCTIONS.

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CITY OF AUSTIN
DAVIS WATER TREATMENT PLANT
MECHANICAL & PLUMBING
NOTES, SYMBOLS & ABBREVIATIONS

F&N JOB NO.	AU120400
DATE	2/1/2021
DESIGNED	SKR
DRAWN	RLP/AT
REVISED	
CHECKED	RMVR
FILE NAME	HVAC-AU120400-R19

NO.	DATE	BY	ISSUE

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SHEET MP-0
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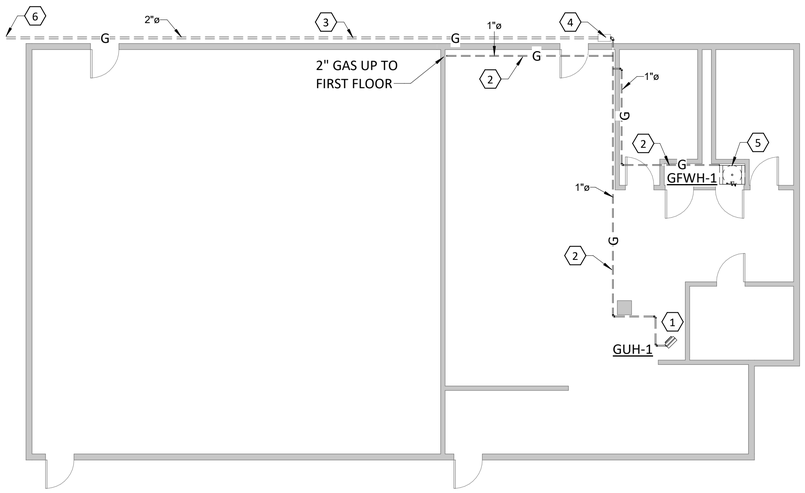
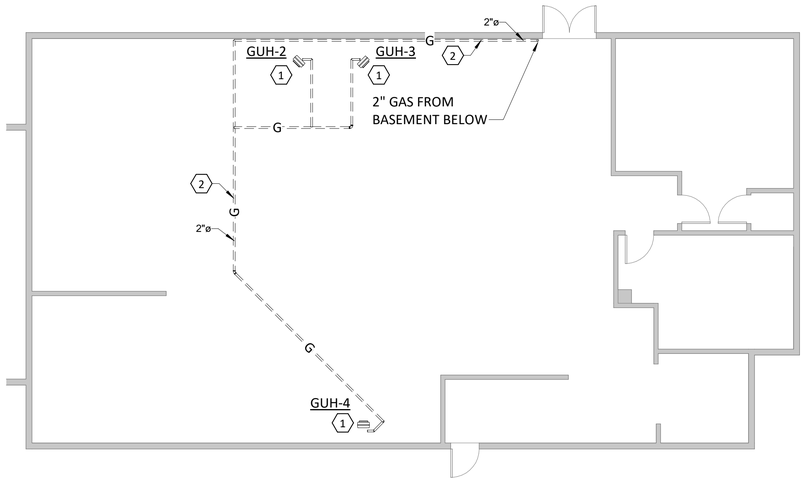


1 DEMOLITION PLAN - BASEMENT
1/8" = 1'-0"



2 DEMOLITION PLAN - FIRST FLOOR
1/8" = 1'-0"

GENERAL NOTES

1. REFER TO SHEET MP-0 FOR HVAC NOTES, SYMBOLS AND ABBREVIATIONS.
2. REFER TO ELECTRICAL DRAWINGS FOR POWER DEMOLITION.
3. REFER TO SHEET MP-0 FOR PLUMBING LEGEND AND GENERAL NOTES.
4. LABEL ALL ABANDONED PIPING "ABANDONED/INACTIVE PIPING". ATTACH LABEL ON ALL REMAINING EXPOSED PIPE ENDS.
5. CONTRACTOR TO REVIEW SPEC. 1910 - SUMMARY OF WORK MATERIALS WITH LEAD PAINT.

NOTES BY SYMBOL "⬡"

1. DEMOLISH GAS UNIT HEATER, SUPPORTS AND CONTROLS IN ITS ENTIRETY. DEMOLISH FLUE DUCTWORK FROM UNIT HEATER TO THE ROOF. EXISTING FLUE TO REMAIN. CAP EXISTING FLUE OPENING.
2. DEMOLISH EXISTING GAS PIPING AS INDICATED.
3. CAP AND ABANDON ALL BURIED NATURAL GAS PIPING DOWNSTREAM OF THE GAS METER. DEMOLISH NATURAL GAS PIPING IN FLOCCULATOR GALLERY.
4. EXISTING GAS PRESSURE REGULATOR IS TO BE DEMOLISHED.
5. GAS FIRED WATER HEATER TO BE REMOVED AND SET ASIDE FOR SALVAGE. CONTRACTOR TO NOTIFY AUSTIN WATER AND CITY WHEN THIS EQUIPMENT IS READY FOR SALVAGE. REMOVE ASSOCIATED GAS PIPING AS INDICATED. HOT AND COLD WATER PIPING TO REMAIN. DEMOLISH FLUE DUCTWORK FROM WATER HEATER TO THE ROOF. CAP EXISTING FLUE TO REMAIN.
6. DEMOLISH 2" GAS PIPE FROM CHEMICAL BUILDING TO MAINTENANCE BUILDING IN FLOCCULATOR GALLERY. FIELD VERIFY TOTAL LENGTH.

0 4' 8' 16'
1/8"=1'-0"

NORTH

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CITY OF AUSTIN
DAVIS WATER TREATMENT PLANT

MECHANICAL & PLUMBING
CHEMICAL BUILDING
DEMOLITION PLANS

F&N JOB NO.	AU120400
DATE	2/1/2021
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FILE NAME HVAC-AU120400-R19

VERIFY SCALE 0 1
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SHEET MP-1

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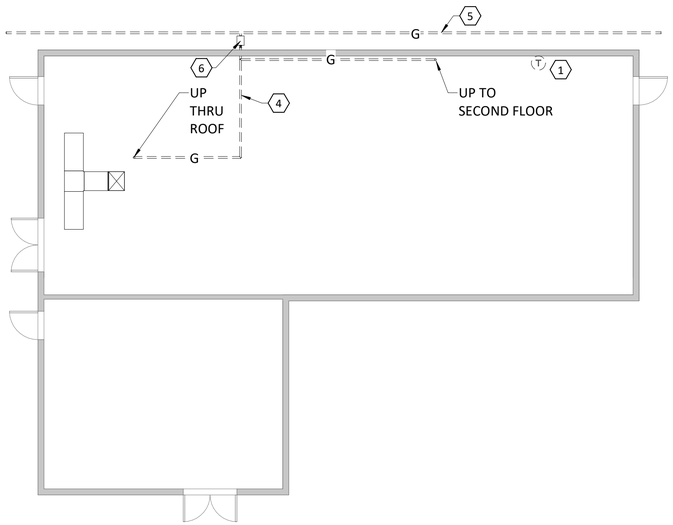
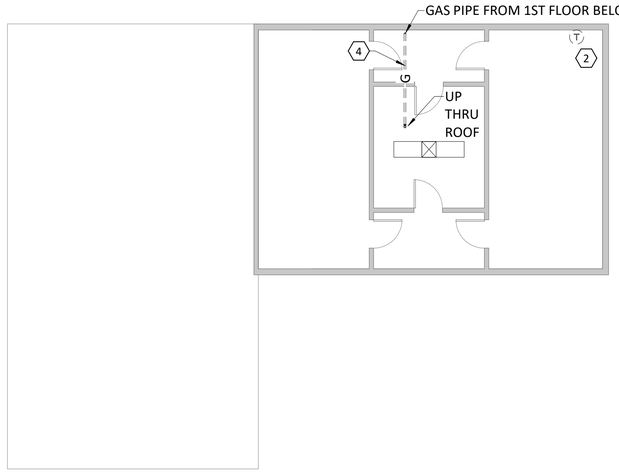
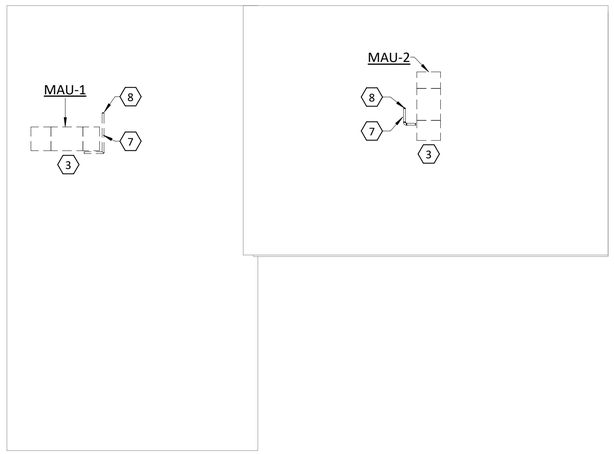


1 DEMOLITION PLAN - FIRST FLOOR
1/8" = 1'-0"



2 DEMOLITION PLAN - SECOND FLOOR
1/8" = 1'-0"



3 DEMOLITION PLAN - ROOF
1/8" = 1'-0"

GENERAL NOTES

1. REFER TO SHEET MP-0 FOR HVAC NOTES, SYMBOLS AND ABBREVIATIONS.
2. REFER TO ELECTRICAL DRAWINGS FOR POWER DEMOLITION.
3. REFER TO SHEET MP-0 FOR PLUMBING LEGEND AND GENERAL NOTES.
4. LABEL ALL ABANDONED PIPING "ABANDONED/INACTIVE PIPING". ATTACH LABEL ON ALL REMAINING EXPOSED PIPE ENDS.
5. CONTRACTOR SHALL INSPECT CONDITION OF DUCTWORK AND PROVIDE PICTURES OF INTERIOR TO CITY OF AUSTIN WITH RECOMMENDATION OF CONDITION OF DUCT. DUCT REPLACEMENT OR CLEANING SHALL BE DECIDED BY THE CITY OF AUSTIN, AND THE CONTRACTOR SHALL SUBMIT A CHANGE ORDER TO REPLACE OR CLEAN DUCTWORK IF DESIRED BY THE CITY OF AUSTIN. IF THE DUCTWORK IS IN ACCEPTABLE CONDITION, THE DUCTWORK WILL BE EXISTING TO REMAIN.
6. CONTRACTOR SHALL INSPECT CONDITION OF ROOF CURB AND PROVIDE PICTURES TO CITY OF AUSTIN WITH RECOMMENDATION OF CONDITION OF CURB IF NEEDED. CURB REPLACEMENT OR REPAIR SHALL BE DECIDED BY THE CITY OF AUSTIN, AND THE CONTRACTOR SHALL SUBMIT A CHANGE ORDER TO REPLACE OR REPAIR CURB IF DESIRED BY THE CITY OF AUSTIN. IF THE ROOFCURB IS IN ACCEPTABLE CONDITION, THE CURB WILL BE EXISTING TO REMAIN.
7. CONTRACTOR TO REVIEW SPEC. 1910 - SUMMARY OF WORK MATERIALS WITH LEAD PAINT.

NOTES BY SYMBOL "⬡"

1. EXISTING T-STAT SERVING MAU-1 TO BE DEMOLISHED IN ITS ENTIRETY INCLUDING ASSOCIATED WIRING. EXISTING SWITCH SERVING MAU-1 TO BE DEMOLISHED.
2. EXISTING T-STAT SERVING MAU-2 TO BE DEMOLISHED IN ITS ENTIRETY INCLUDING ASSOCIATED WIRING. EXISTING SWITCH SERVING MAU-2 TO BE DEMOLISHED.
3. DEMOLISH MAKE UP AIR UNIT ON ROOF INCLUDING ASSOCIATED WIRING, SUPPORTS AND CONTROLS. EXISTING DUCT BELOW AND EXISTING ROOF CURB TO REMAIN. CAP ROOF CURB FOR RE-USE.
4. DEMOLISH EXISTING GAS PIPING ABOVE CEILING AS INDICATED.
5. CAP AND ABANDON ALL BURIED NATURAL GAS PIPING DOWNSTREAM OF THE GAS METER. DEMOLISH NATURAL GAS PIPING IN FLOCCULATOR GALLERY.
6. EXISTING GAS PRESSURE REGULATOR IS TO BE DEMOLISHED.
7. DEMOLISH EXISTING GAS PIPING AND ASSOCIATED PIPE SUPPORTS ON ROOF AS INDICATED. CAP PIPE AT ROOF PENETRATION.
8. DEMOLISH GAS PIPE DOWN THROUGH ROOF. PATCH ROOF OPENING.

0 4' 8' 16'
1/8"=1'-0"

NORTH

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FILE NAME HVAC-AU120400-R19

VERIFY SCALE 0 1
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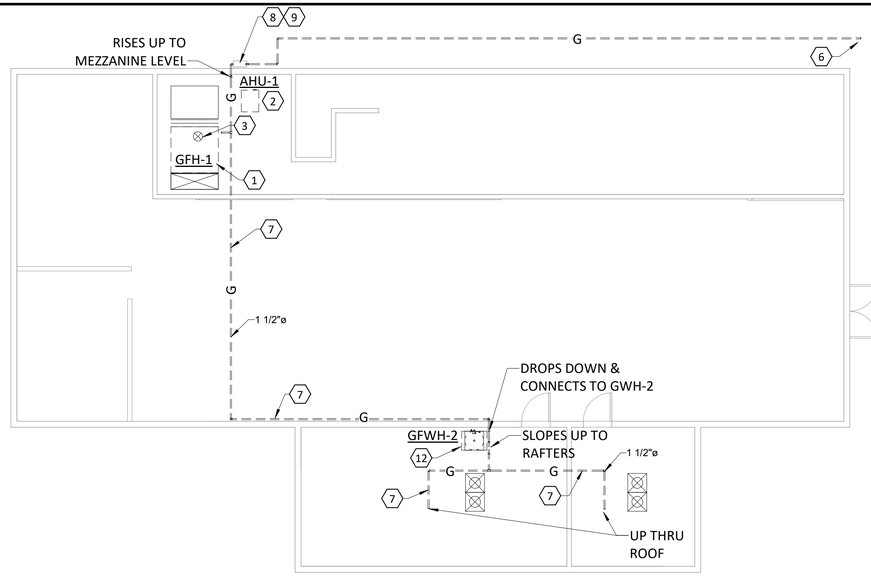
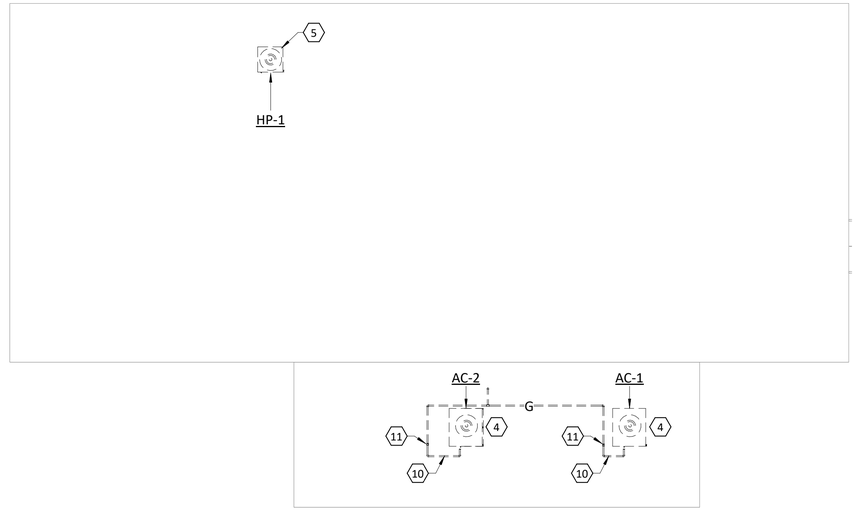
SHEET MP-2
SEQ.

Plot Date: 2/1/2021 12:09:03 PM



1 DEMOLITION PLAN - MEZZANINE
1/8" = 1'-0"



2 DEMOLITION PLAN - ROOF
1/8" = 1'-0"

GENERAL NOTES

1. REFER TO SHEET MP-0 FOR HVAC NOTES, SYMBOLS AND ABBREVIATIONS.
2. REFER TO ELECTRICAL DRAWINGS FOR POWER DEMOLITION.
3. REFER TO SHEET MP-0 FOR PLUMBING LEGEND AND GENERAL NOTES.
4. LABEL ALL ABANDONED PIPING "ABANDONED/INACTIVE PIPING". ATTACH LABEL ON ALL REMAINING EXPOSED PIPE ENDS.
5. CONTRACTOR SHALL INSPECT CONDITION OF DUCTWORK AND PROVIDE PICTURES OF INTERIOR TO CITY OF AUSTIN WITH RECOMMENDATION OF CONDITION OF DUCT. DUCT REPLACEMENT OR CLEANING SHALL BE DECIDED BY THE CITY OF AUSTIN, AND THE CONTRACTOR SHALL SUBMIT A CHANGE ORDER TO REPLACE OR CLEAN DUCTWORK IF DESIRED BY THE CITY OF AUSTIN. IF THE DUCTWORK IS IN ACCEPTABLE CONDITION, THE DUCTWORK WILL BE EXISTING TO REMAIN.
6. CONTRACTOR SHALL INSPECT CONDITION OF ROOF CURB AND PROVIDE PICTURES TO CITY OF AUSTIN WITH RECOMMENDATION OF CONDITION OF CURB IF NEEDED. CURB REPLACEMENT OR REPAIR SHALL BE DECIDED BY THE CITY OF AUSTIN, AND THE CONTRACTOR SHALL SUBMIT A CHANGE ORDER TO REPLACE OR REPAIR CURB IF DESIRED BY THE CITY OF AUSTIN. IF THE ROOFCURB IS IN ACCEPTABLE CONDITION, THE CURB WILL BE EXISTING TO REMAIN.
7. CONTRACTOR TO REVIEW SPEC. 1910 - SUMMARY OF WORK MATERIALS WITH LEAD PAINT.

NOTES BY SYMBOL "⬡"

1. DEMOLISH GAS FIRED HEATER IN ITS ENTIRETY, INCLUDING ASSOCIATED WIRING, SUPPORTS AND CONTROLS.
2. DEMOLISH GAS FURNACE UNIT (BOTTOM), FLUE AND THE COOLING COIL ON TOP IN ENTIRETY INCLUDING REFRIGERANT PIPING, ASSOCIATED WIRING SUPPORT AND CONTROLS.
3. DEMOLISH FLUE DUCTWORK FROM GAS FIRED HEATER TO THE ROOF. EXISTING FLUE TO REMAIN.
4. DEMOLISH AC UNIT. EXISTING CURB AND CONCENTRIC DIFFUSER TO REMAIN FOR REUSE.
5. DEMOLISH CONDENSING UNIT SERVING AHU-1 IN ITS ENTIRETY. EXISTING ROOF CURB TO REMAIN IN PLACE FOR REUSE.
6. DEMOLISH 2" GAS PIPE FROM CHEMICAL BUILDING TO MAINTENANCE BUILDING IN FLOCCULATOR GALLERY. FIELD VERIFY TOTAL LENGTH.
7. DEMOLISH GAS PIPING AS INDICATED.
8. CAP AND ABANDON ALL BURIED NATURAL GAS PIPING DOWNSTREAM OF THE GAS METER. DEMOLISH NATURAL GAS PIPING IN FLOCCULATOR GALLERY.
9. EXISTING GAS PRESSURE REGULATOR IS TO BE DEMOLISHED.
10. DEMOLISH GAS PIPING ON ROOF AND ASSOCIATED PIPE SUPPORTS AS INDICATED.
11. DEMOLISH GAS PIPING DOWN THROUGH ROOF. CAP PIPE AT ROOF PENETRATION.
12. GAS FIRED WATER HEATER TO BE REMOVED. REMOVE ASSOCIATED PIPING AS INDICATED. HOT AND COLD WATER PIPING TO REMAIN.

0 4' 8' 16'
1/8"=1'-0"

NORTH

ISSUE FOR BID

Freese and Nichols, Inc.
Texas Registered Engineering Firm F- 2144

STATE OF TEXAS · SATISH KUMAR RAVINDRAN · 115979 · LICENSED PROFESSIONAL ENGINEER · 2/1/2021

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CITY OF AUSTIN
DAVIS WATER TREATMENT PLANT

MECHANICAL & PLUMBING
MAINTENENCE BUILDING
DEMOLITION PLANS

F&N JOB NO.	AU120400
DATE	2/1/2021
DESIGNED	SKR
DRAWN	RLF/AT
CHECKED	RMVR

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FILE NAME HVAC-AU120400-R19

VERIFY SCALE 0 1
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SHEET MP-3
SEQ.

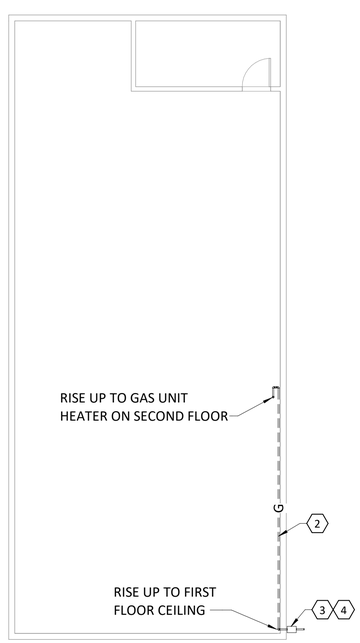
Plot Date: 2/1/2021 12:09:03 PM

GENERAL NOTES

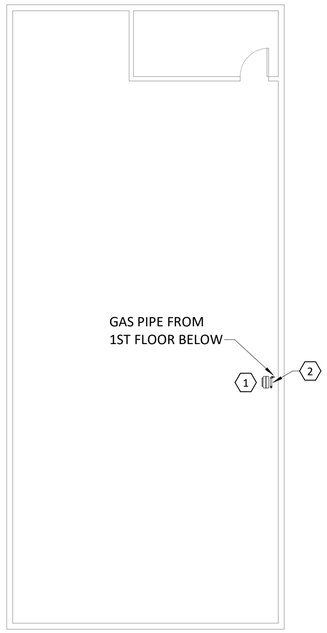
1. REFER TO SHEET MP-0 FOR HVAC NOTES, SYMBOLS AND ABBREVIATIONS.
2. REFER TO ELECTRICAL DRAWINGS FOR POWER DEMOLITION.
3. REFER TO SHEET MP-0 FOR PLUMBING LEGEND AND GENERAL NOTES.
4. LABEL ALL ABANDONED PIPING "ABANDONED/INACTIVE PIPING". ATTACH LABEL ON ALL REMAINING EXPOSED PIPE ENDS.
5. CONTRACTOR TO REVIEW SPEC. 1910 - SUMMARY OF WORK MATERIALS WITH LEAD PAINT.

NOTES BY SYMBOL "⬡"

1. DEMOLISH GAS UNIT HEATER, SUPPORTS AND CONTROLS IN ITS ENTIRETY.
2. DEMOLISH EXISTING GAS PIPING AS INDICATED.
3. DEMOLISH 2" GAS PIPE FROM CHEMICAL BUILDING TO FLOCCULATOR GALLERY. FIELD VERIFY TOTAL LENGTH.
4. DEMOLISH EXISTING GAS PRESSURE REGULATOR.



1 DEMOLITION PLAN - FIRST FLOOR
1/8" = 1'-0"



2 DEMOLITION PLAN - SECOND FLOOR
1/8" = 1'-0"

0 4' 8' 16'
1/8"=1'-0"

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SATISH KUMAR RAVINDRAN
115979
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PROFESSIONAL ENGINEER
Satish Ravindran
2/1/2021

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CITY OF AUSTIN
DAVIS WATER TREATMENT PLANT

MECHANICAL & PLUMBING
CENTRIFUGE BUILDING
DEMOLITION PLANS

F&N JOB NO.	AU120400
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VERIFY SCALE 0 1
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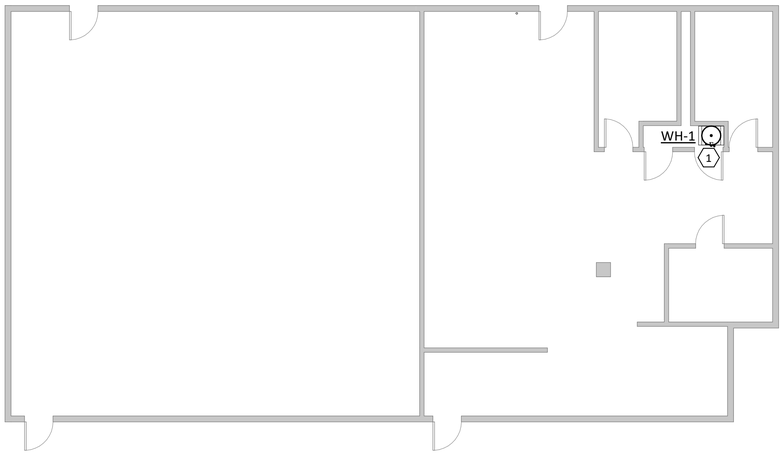
SHEET
MP-4

SEQ.

Plot Date: 2/1/2021 12:09:04 PM



1 FLOOR PLAN - BASEMENT
1/8" = 1'-0"

GENERAL NOTES

1. REFER TO SHEET MP-0 FOR HVAC NOTES, SYMBOLS AND ABBREVIATIONS.
2. REFER TO ELECTRICAL DRAWINGS FOR POWER REQUIREMENTS FOR MECHANICAL EQUIPMENT.
3. REFER TO SHEET MP-0 FOR PLUMBING LEGEND AND GENERAL NOTES.

NOTES BY SYMBOL "⬡"

1. PROVIDE NEW ELECTRIC TANK TYPE WATER HEATER. 50 GALLON CAPACITY (AO SMITH MODEL DVE-52-6 OR APPROVED EQUAL). MOUNT IN PLACE OF REMOVED GAS-FIRED WATER HEATER AND PROVIDE DRAIN PAN. CONNECT TO EXISTING HOT AND COLD WATER PIPING AND PROVIDE NEW PIPING AND CONNECTORS AS REQUIRED TO ENSURE A FULLY FUCTIONAL SYSTEM.

0 4' 8' 16'
1/8"=1'-0"

NORTH

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Freese and Nichols, Inc.
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SATISH KUMAR RAVINDRAN
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CITY OF AUSTIN
DAVIS WATER TREATMENT PLANT

MECHANICAL & PLUMBING
CHEMICAL BUILDING
FLOOR PLAN

F&N JOB NO.	AU120400
DATE	2/1/2021
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DRAWN	RKF/AT
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FILE NAME HVAC-AU120400-R19

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0 1

SHEET MP-5
SEQ.

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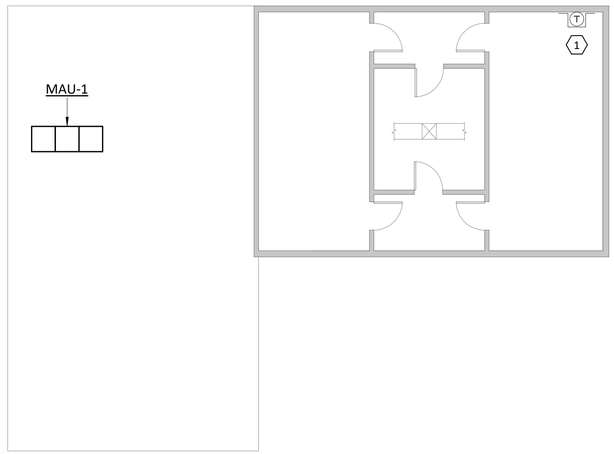
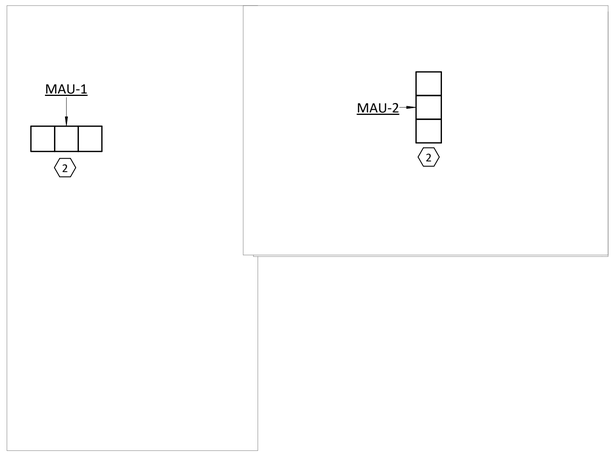
1 FLOOR PLAN - FIRST FLOOR
1/8" = 1'-0"



2 FLOOR PLAN - SECOND FLOOR
1/8" = 1'-0"



3 ROOF PLAN
1/8" = 1'-0"

GENERAL NOTES

1. REFER TO SHEET MP-0 FOR HVAC NOTES, SYMBOLS AND ABBREVIATIONS.
2. REFER TO ELECTRICAL DRAWINGS FOR POWER REQUIREMENTS FOR MECHANICAL EQUIPMENT.
3. REFER TO SHEET MP-0 FOR PLUMBING LEGEND AND GENERAL NOTES.
4. CONTRACTOR SHALL INSPECT CONDITION OF EXISTING DUCTWORK AND PROVIDE PICTURES OF INTERIOR TO CITY OF AUSTIN WITH RECOMMENDATIONS ON CONDITION OF DUCT. THE CONTRACTOR SHALL SUBMIT A CHANGE ORDER TO REPLACE OR CLEAN DUCTWORK IF DESIRED BY THE CITY OF AUSTIN. IF THE DUCTWORK IS IN ACCEPTABLE CONDITION, THE DUCTWORK SHALL BE EXISTING TO REMAIN.
5. CONTRACTOR SHALL INSPECT CONDITION OF ROOF CURB AND PROVIDE PICTURES TO CITY OF AUSTIN WITH RECOMMENDATIONS ON CONDITION OF CURB AS NECESSARY. CONTRACTOR SHALL SUBMIT A CHANGE ORDER TO REPLACE OR REPAIR CURB IF DESIRED BY THE CITY OF AUSTIN. IF THE ROOFCURB IS IN ACCEPTABLE CONDITION, THE CURB SHALL BE EXISTING TO REMAIN.
6. ALL FINISHED FLASHING AND SHEET METALWORK SHALL FORM A WEATHERTIGHT CONSTRUCTION, AND COMPLY WITH LATEST EDITION OF THE SMACNA ARCHITECTURAL SHEET METAL MANUAL.

NOTES BY SYMBOL "⬡"

1. PROVIDE NEW SWITCH AND T-STAT WITH TAMPER RESISTANT LOCKING COVER. MOUNT AT 48" AFF. HEATING SETPOINT 65 DEGREES F.
2. PROVIDE NEW ROOFTOP MAKE-UP AIR UNIT AS SCHEDULED ON SHEET MP-10. INSTALL ON EXISTING ROOF CURB. CONNECT TO EXISTING DUCTWORK.

0 4' 8' 16'
1/8"=1'-0"

NORTH

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CITY OF AUSTIN
DAVIS WATER TREATMENT PLANT

MECHANICAL & PLUMBING
CHLORINE AND AMMONIA BUILDING
FLOOR PLANS AND ROOF PLAN

F&M JOB NO.	AU120400
DATE	2/1/2021
DESIGNED	SKR
DRAWN	RLP/AT
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CHECKED	RMVR

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SHEET MP-6
SEQ.

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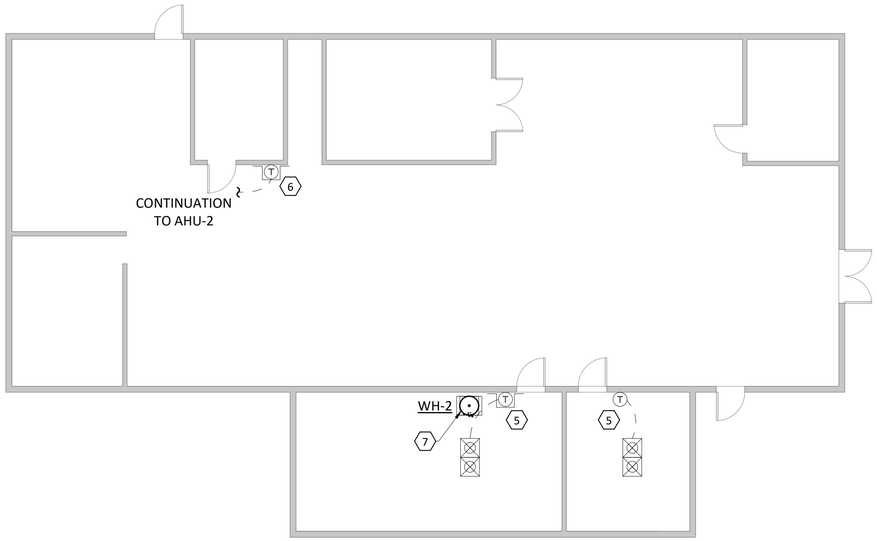
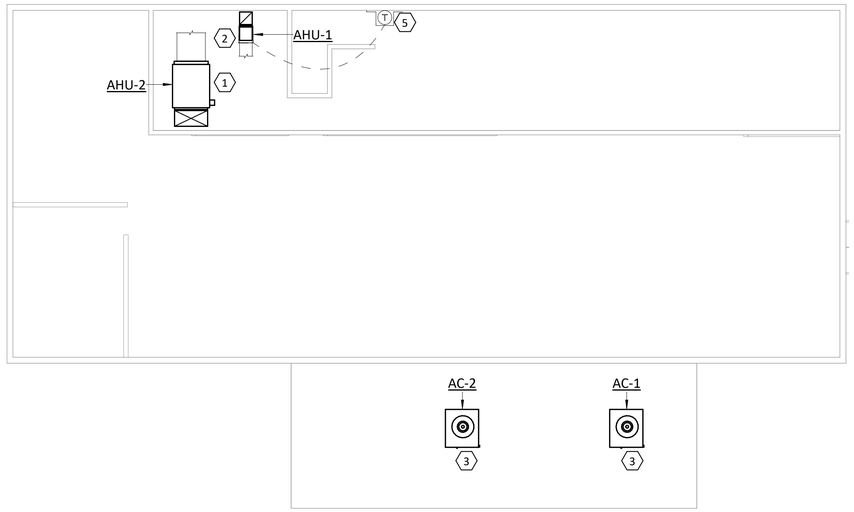


1 FLOOR PLAN - FIRST FLOOR
1/8" = 1'-0"



2 FLOOR PLAN - MEZZANINE
1/8" = 1'-0"

3 ROOF PLAN
1/8" = 1'-0"

GENERAL NOTES

1. REFER TO SHEET MP-0 FOR HVAC NOTES, SYMBOLS AND ABBREVIATIONS.
2. REFER TO ELECTRICAL DRAWINGS FOR POWER REQUIREMENTS FOR MECHANICAL EQUIPMENT.
3. REFER TO SHEET MP-0 FOR PLUMBING LEGEND AND GENERAL NOTES.
4. CONTRACTOR SHALL INSPECT CONDITION OF EXISTING DUCTWORK AND PROVIDE PICTURES OF INTERIOR TO CITY OF AUSTIN WITH RECOMMENDATIONS ON CONDITION OF DUCT. THE CONTRACTOR SHALL SUBMIT A CHANGE ORDER TO REPLACE DUCTWORK IF DESIRED BY THE CITY OF AUSTIN. IF THE DUCTWORK IS IN ACCEPTABLE CONDITION, THE DUCTWORK SHALL BE EXISTING TO REMAIN.
5. CONTRACTOR SHALL INSPECT CONDITION OF ROOF CURB AND PROVIDE PICTURES TO CITY OF AUSTIN WITH RECOMMENDATIONS ON CONDITION OF CURB AS NECESSARY. CONTRACTOR SHALL SUBMIT A CHANGE ORDER TO REPLACE CURB IF DESIRED BY THE CITY OF AUSTIN. IF THE ROOFCURB IS IN ACCEPTABLE CONDITION, THE CURB SHALL BE EXISTING TO REMAIN.

NOTES BY SYMBOL "⬡"

1. PROVIDE NEW AIR HANDLING UNIT AS SCHEDULED ON SHEET MP-10. CONNECT TO EXISTING SUPPLY AND RETURN DUCTWORK.
2. PROVIDE NEW HEAT PUMP AS SCHEDULED ON SHEET MP-10. CONNECT TO EXISTING CONDENSATE PIPING.
3. PROVIDE NEW HEAT PUMP AS SCHEDULED ON SHEET MP-10. REUSE EXISTING CURB. PROVIDE P-TRAP AND CONNECT TO EXISTING CONDENSATE PIPING.
4. PROVIDE NEW CONDENSING UNIT AS SCHEDULED ON SHEET MP-10. TO SERVE AHU-1.
5. PROVIDE NEW T-STAT. MOUNT AT 48" AFF. COOLING SETPOINT 75 DEGREES F, HEATING SETPOINT 65 DEGREES F.
6. PROVIDE NEW T-STAT. MOUNT AT 48" AFF. HEATING SETPOINT 65 DEGREES F.
7. PROVIDE NEW ELECTRIC TANK TYPE WATER HEATER. 50 GALLON CAPACITY (AO SMITH MODEL DVE-52/6 OR APPROVED EQUAL). MOUNT IN PLACE OF REMOVED GAS-FIRED WATER HEATER AND PROVIDE DRAIN PAN. CONNECT TO EXISTING HOT AND COLD WATER PIPING AND PROVIDE NEW PIPING AND CONNECTORS AS REQUIRED TO ENSURE A FULLY FUCTIONAL SYSTEM.

0 4' 8' 16'
1/8"=1'-0"

NORTH

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CITY OF AUSTIN
DAVIS WATER TREATMENT PLANT
MECHANICAL & PLUMBING
MAINTENENCE BUILDING
FLOOR PLANS AND ROOF PLAN

F&N JOB NO. AU120400
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SHEET MP-7
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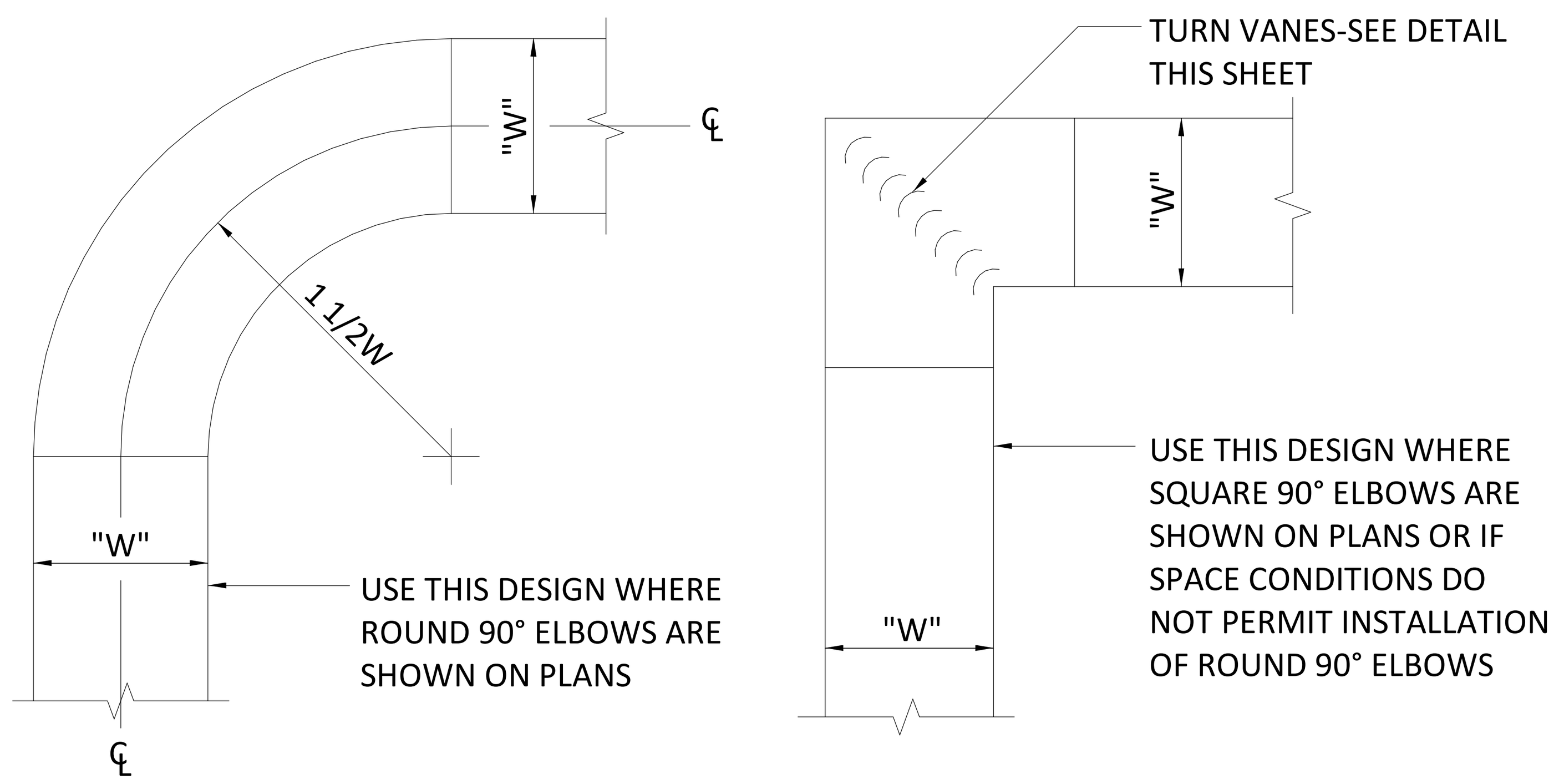
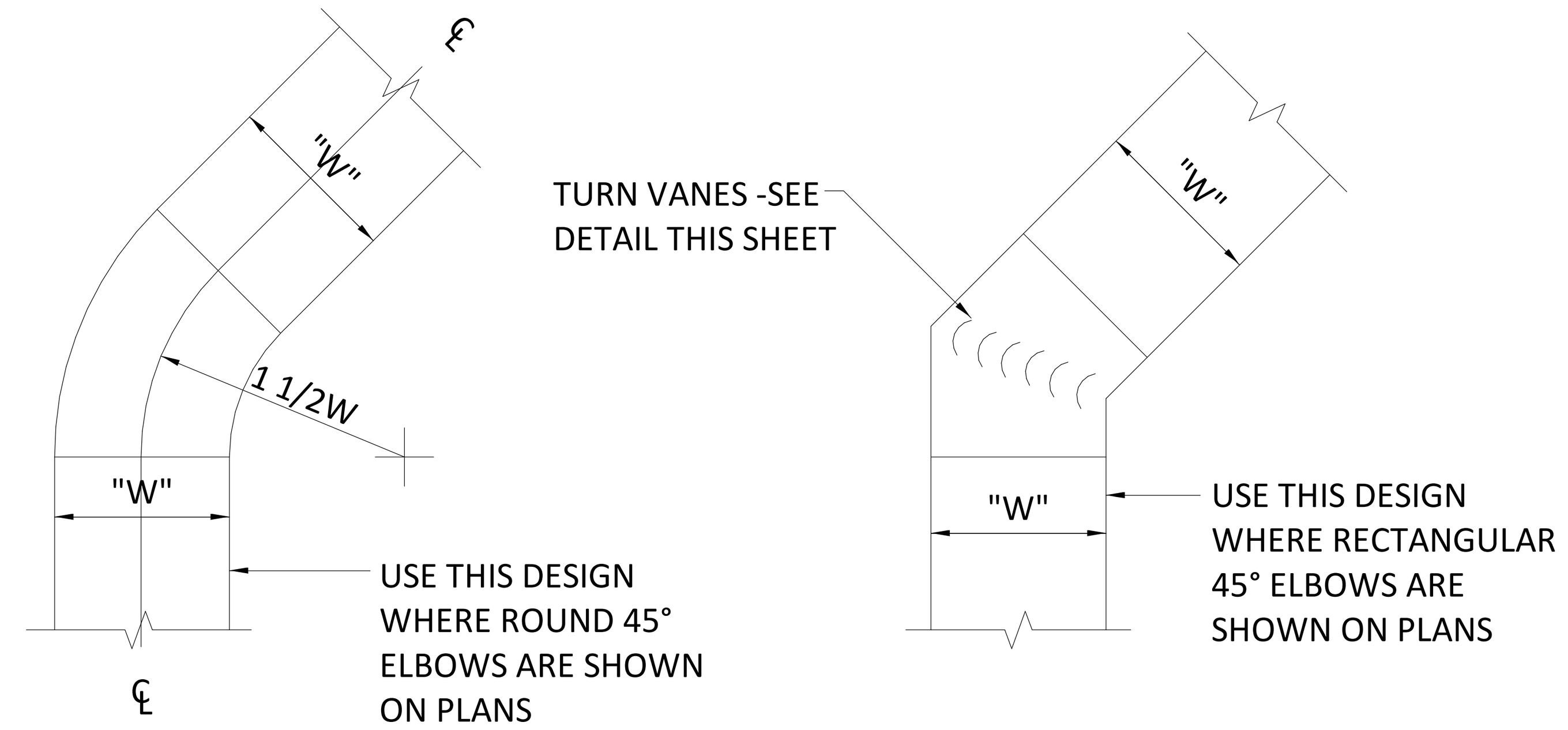


ROUND 90° ELBOW

SQUARE 90° ELBOW

1 CONSTRUCTION OF 90 DEGREE ELBOWS

NOT TO SCALE

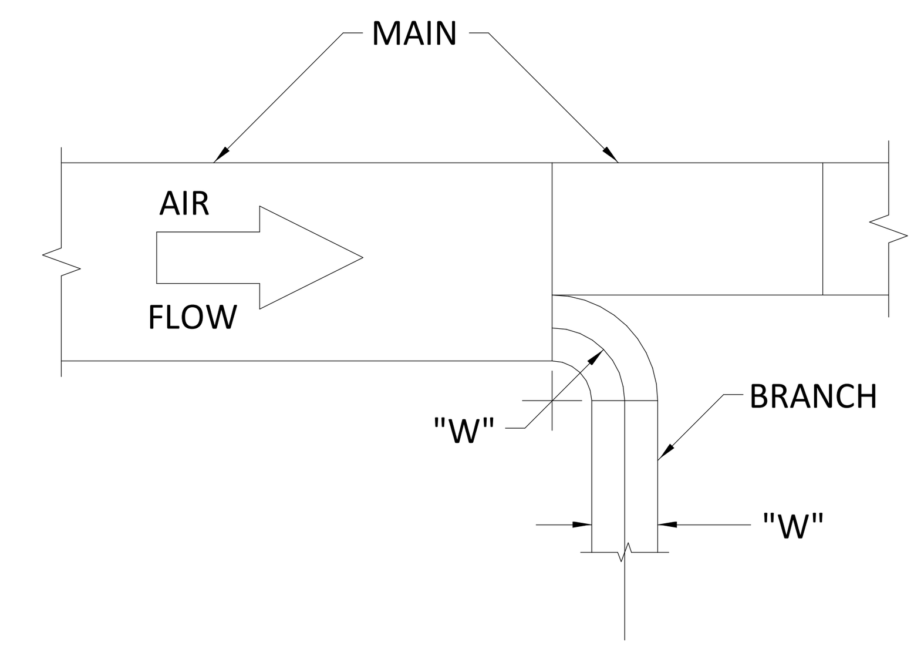


ROUND 45° ELBOW

SQUARE 45° ELBOW

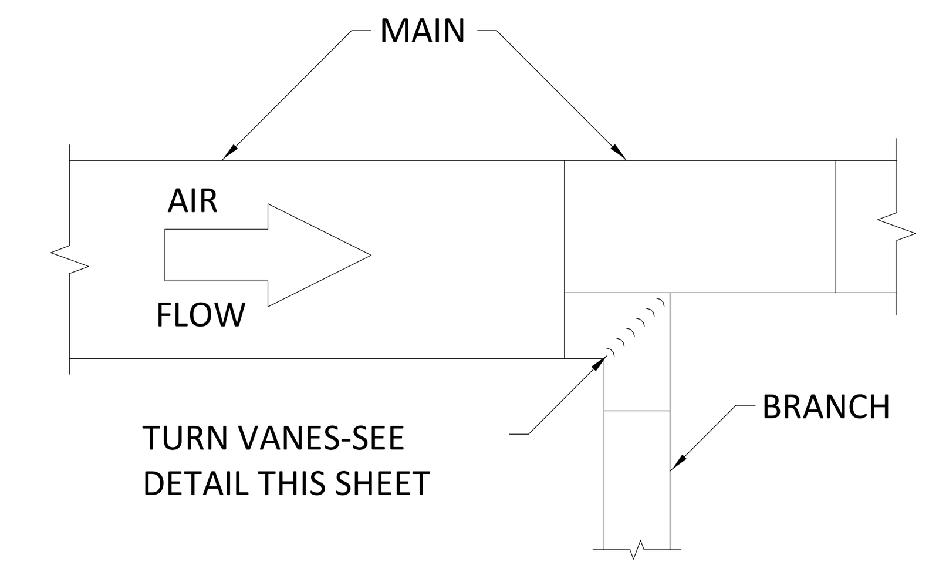
2 CONSTRUCTION OF 45 DEGREE ELBOWS

NOT TO SCALE



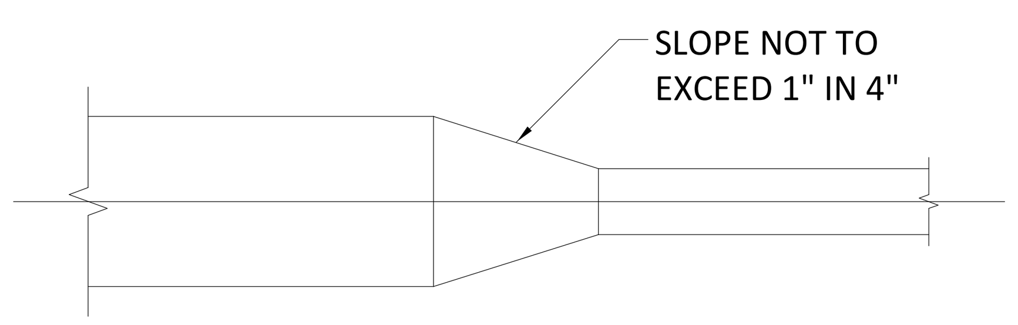
3 ROUND BRANCH TAKEOFF

NOT TO SCALE



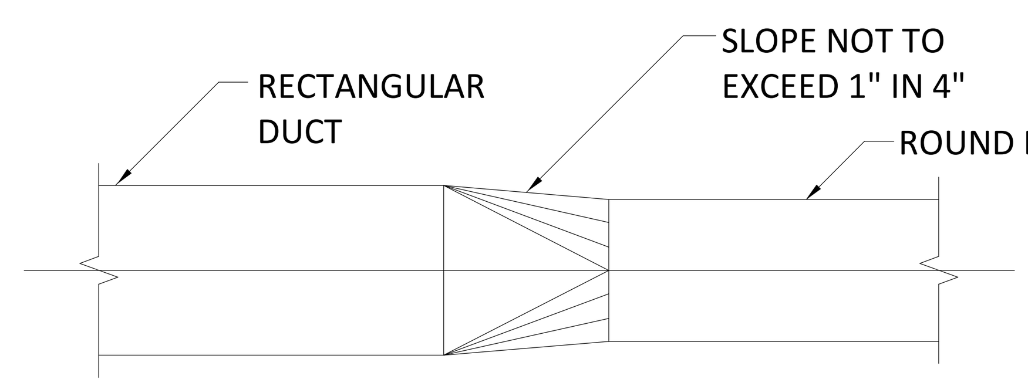
4 RECTANGULAR BRANCH TAKE OFF

NOT TO SCALE



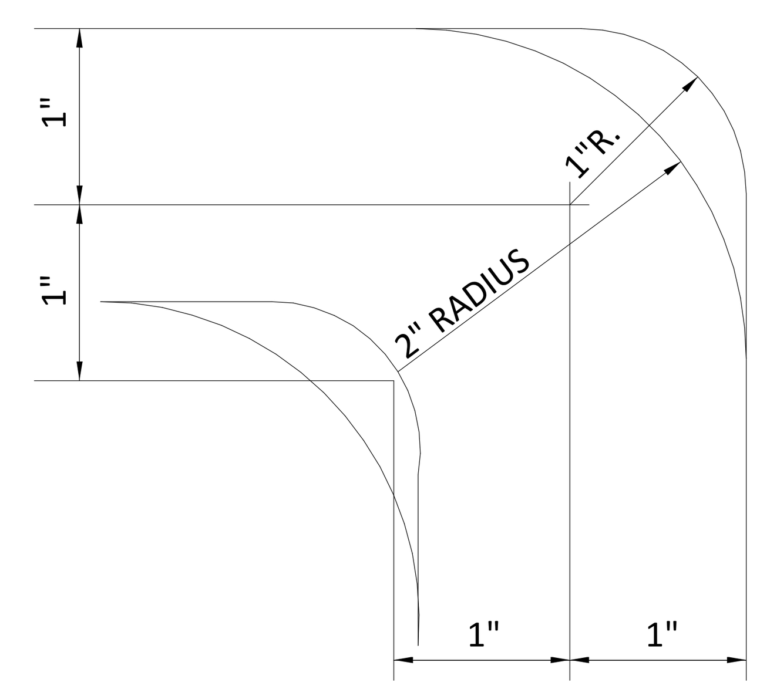
5 TYPICAL RECTANGULAR TRANSITION

NOT TO SCALE



6 TYPICAL RECTANGULAR TO ROUND TRANSITION

NOT TO SCALE

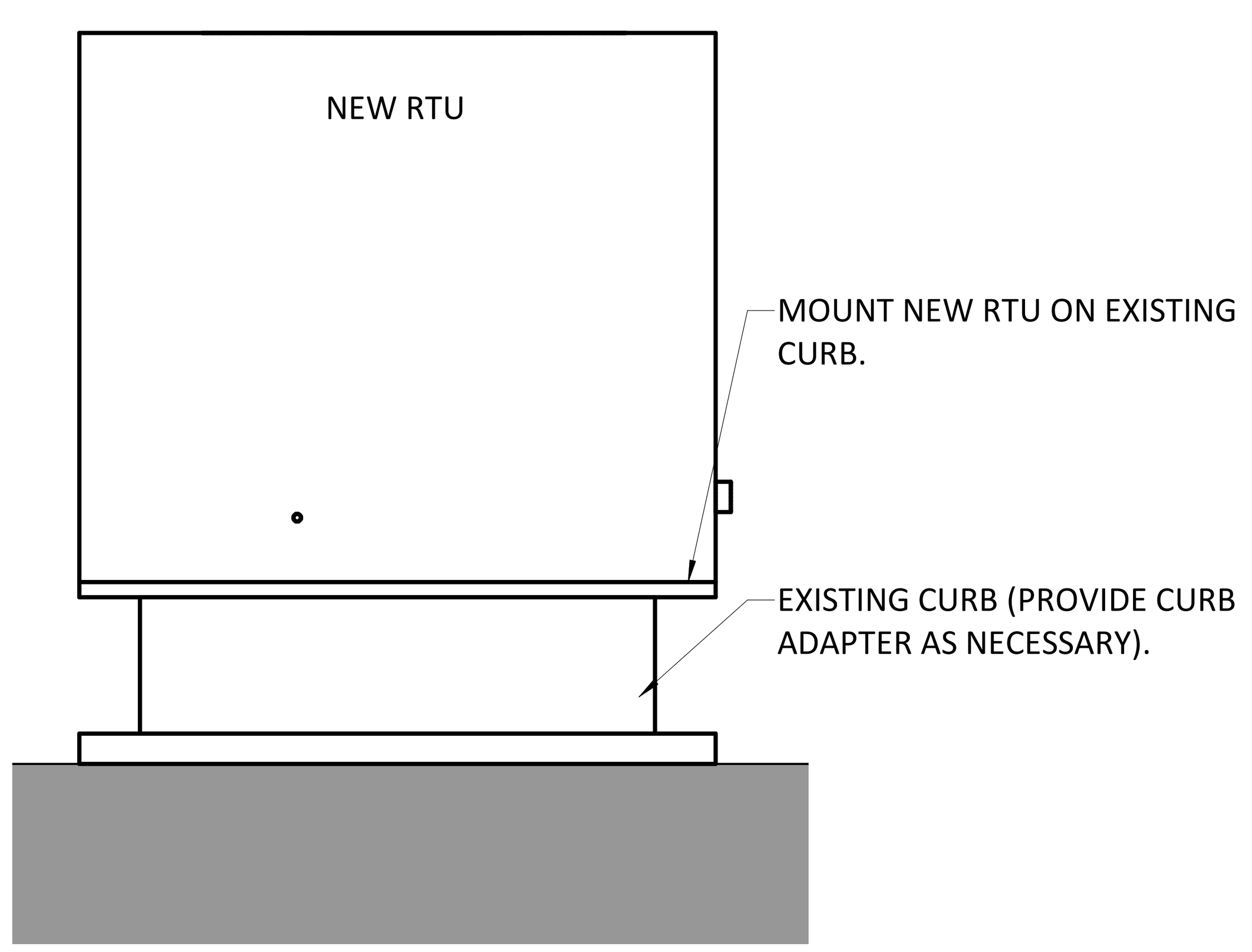


7 TYPICAL TURNING VANES

NOT TO SCALE

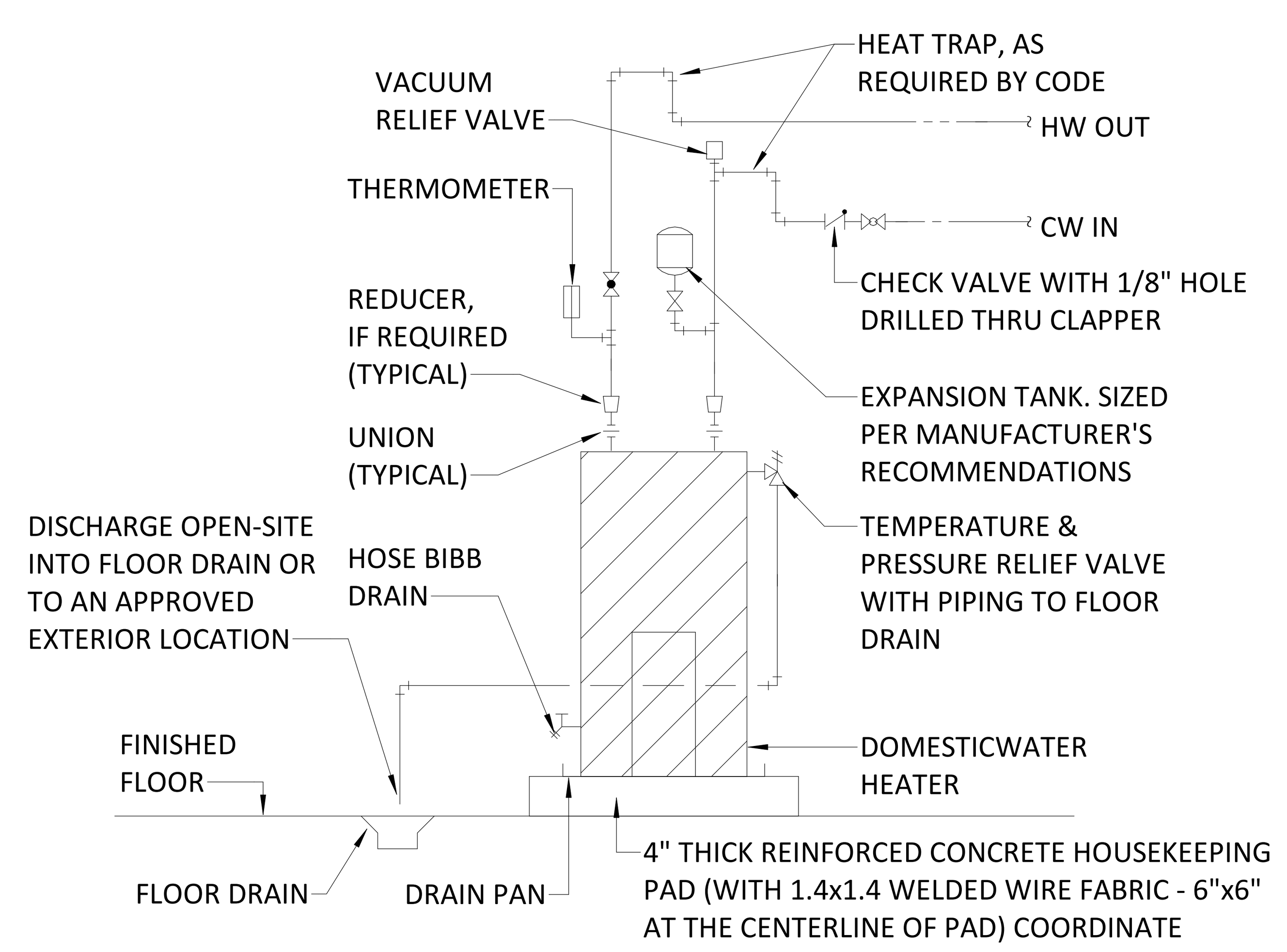
GENERAL INSTALLATION NOTES:

1. ALL DUCTS SHALL BE CONSTRUCTED AND ERECTED IN A NEAT AND WORKMANLIKE MANNER.
2. DUCTS SHALL BE CONSTRUCTED OF THE WEIGHTS, GAUGES, AND MATERIAL SHOWN IN SMACNA.
3. THE DIMENSION SHOWN FOR ALL DUCTS SHOWN IN PLAN GIVE THE NET INSIDE CLEAR WIDTH FIRST AND THEN THE NET INSIDE CLEAR HEIGHT.
4. AIR TURNING VANES SHALL BE INSTALLED IN ALL ABRUPT ELBOWS TO PREVENT TURBULENCE.
5. DUCTS SHALL BE SECURELY ATTACHED TO THE BUILDING CONSTRUCTION IN AN APPROVED MANNER.
6. DIVERGING TRANSITION PIECE SHALL BE MADE AS GRADUAL AS POSSIBLE.
7. INSTALL FIRE/SMOKE DAMPERS IN ACCORDANCE WITH UL 555.
8. ACCESS PANELS SHOULD BE PLACED BEFORE AND/OR AFTER EQUIPMENT INSTALLED IN THE DUCT.
9. DUCT AREA SHOULD NOT BE DECREASED MORE THAN 10 PERCENT WHEN OBSTRUCTIONS CANNOT BE AVOIDED, AND THEN A STREAMLINED FITTING SHOULD BE USED.
10. FLEXIBLE FABRIC CONNECTIONS (OR EQUAL) SHOULD BE USED ON BOTH INLETS AND OUTLETS OF ALL FAN COIL UNITS.
11. JOINTS AND SEAMS OF SUPPLY DUCTS SHALL BE FASTENED SECURELY AND MADE AIR TIGHT.



8 ROOF CURB DETAIL

NOT TO SCALE



NOTE:
1. PROVIDE HEAT TRAP IN PIPING IF REQUIRED BY CODE.
2. PROVIDE AN AUTOMATIC OR MANUAL SWITCH FOR TURNING THE WATER HEATING SYSTEM AND ACCESSORIES OFF WHEN NOT IN USE OR WHEN BUILDING IS NOT IN USE.
3. PROVIDE APPROVED PIPE INSULATION ON ALL HW AND CW PIPING.

9 ELECTRIC WATER HEATER DETAIL

NOT TO SCALE

GENERAL NOTES:

1. PURGE, CAP AND ABANDON ALL BURIED NATURAL GAS PIPING DOWNSTREAM OF THE GAS METER

GENERAL NOTES:

1. DEMOLISH METER LOCATED AT MEDIUM SERVICE PUMP STATION

ISSUE FOR BID

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CITY OF AUSTIN
DAVIS WATER TREATMENT PLANT
MECHANICAL & PLUMBING
DETAILS I

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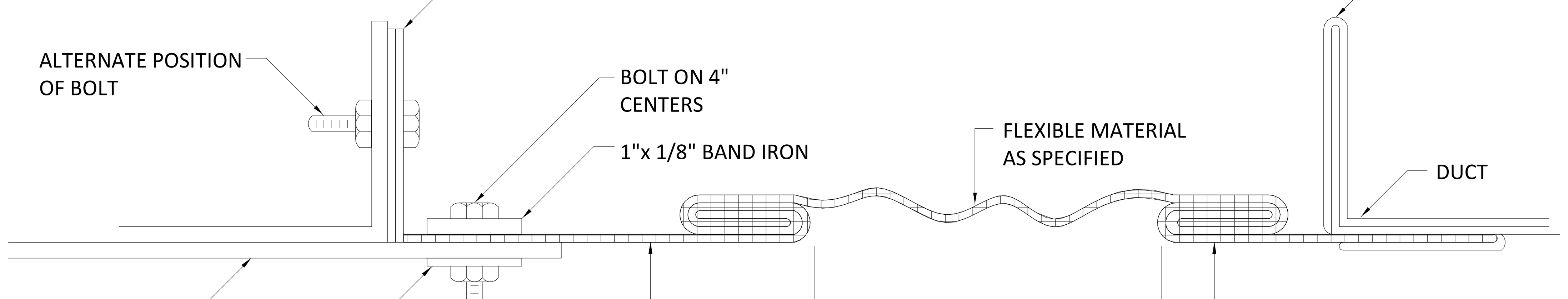
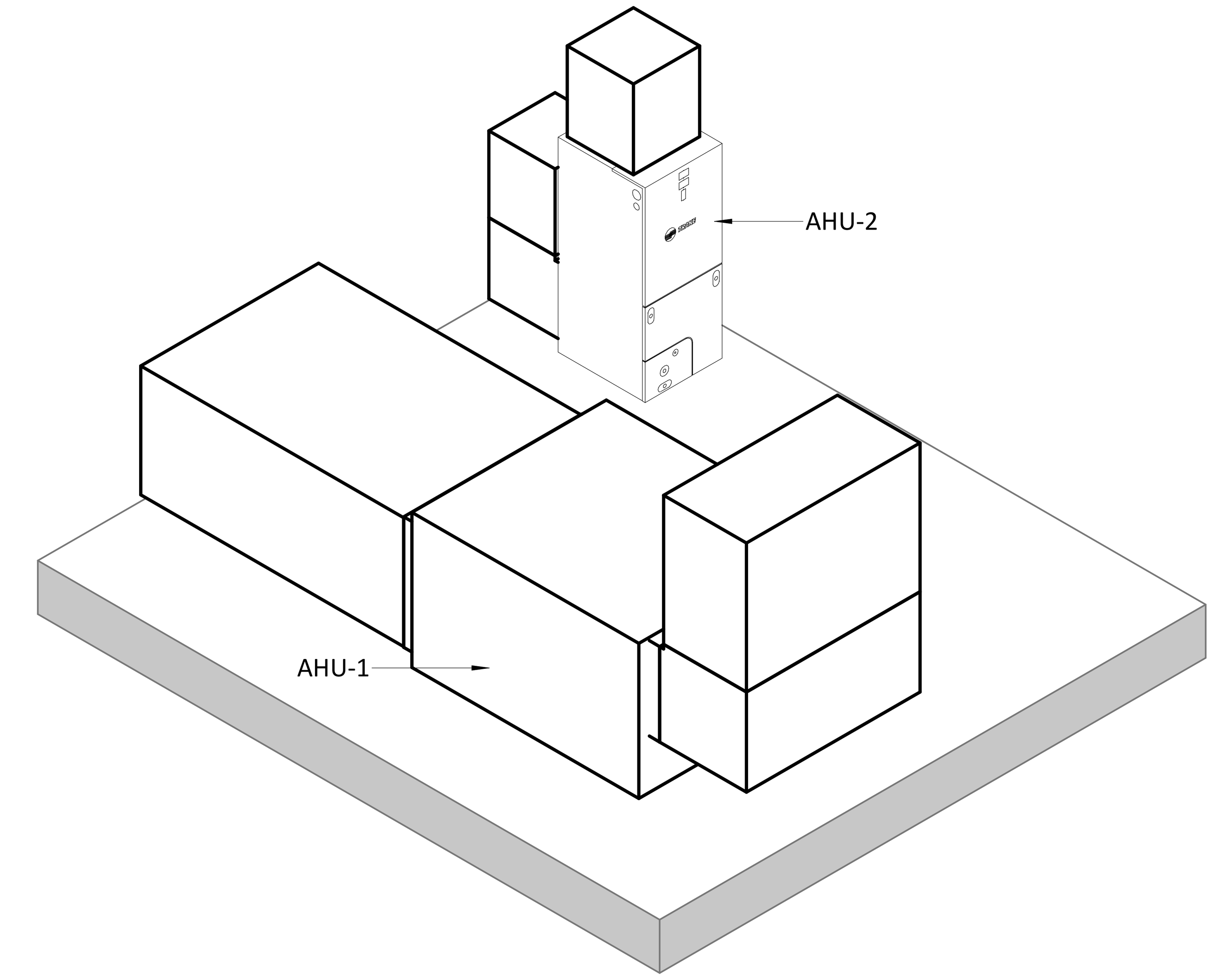
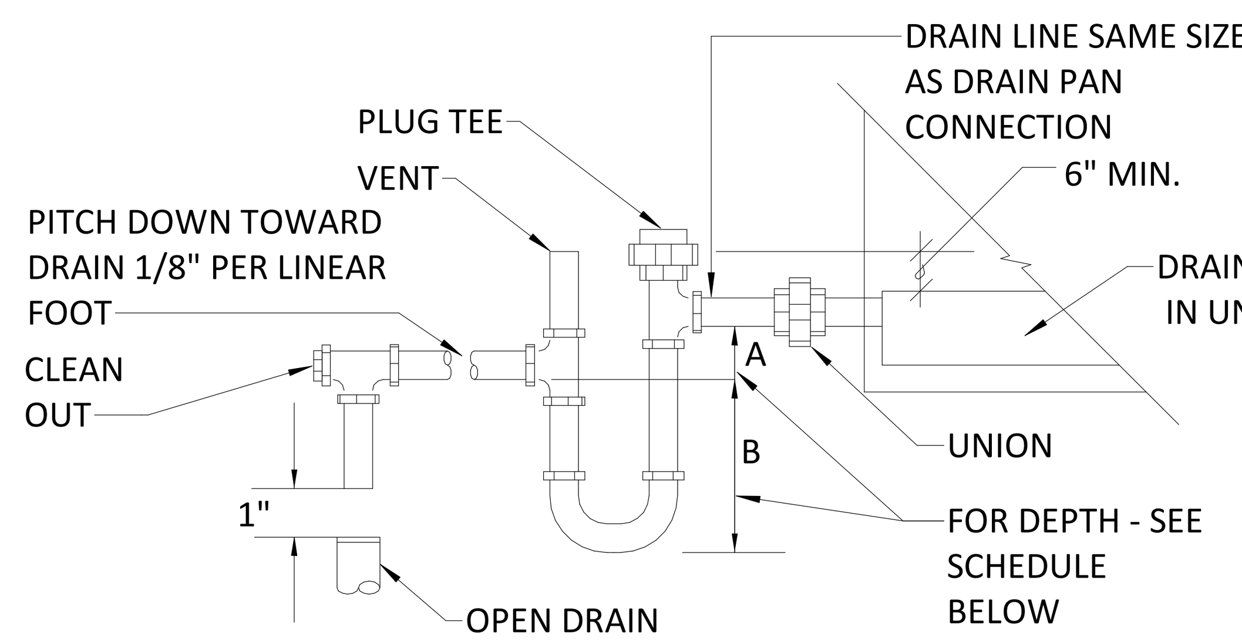
SHEET MP-8
SEQ.



1 RECTANGULAR FLEXIBLE TYPE CONNECTION
NOT TO SCALE



2 MEZZANINE ISOMETRIC



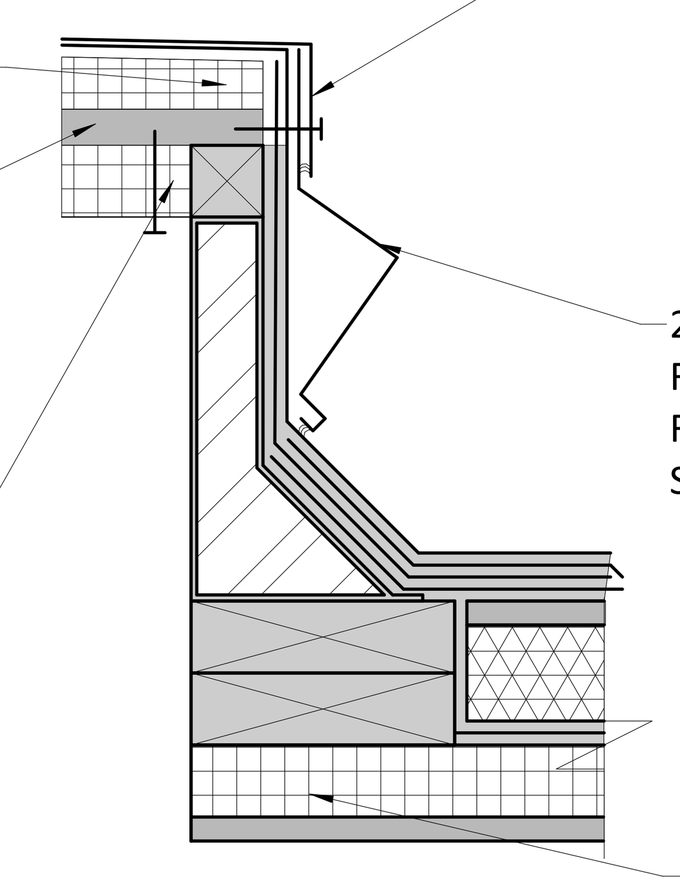
UNIT TYPE	A	B
DRAW-THRU	1" MIN.	1.5X
BLOW-THRU	1" MIN.	2.0X

WHERE X = SCHEDULED FAN STATIC PRESS.

NOTES:

1. TYPICAL P-TRAP DETAIL APPLIES ONLY TO NON-PUMPED CONDENSATE SYSTEMS.

3 TYPICAL A/C CONDENSATE PIPING
NOT TO SCALE



NOTE: CAP ALL FLUES FOR DEMOLISHED UNIT HEATERS, MAKE-UP AIR UNITS, AND WATER HEATERS IN THE CENTRIFUGE BUILDING, MAINTENANCE BUILDING, AND CHEMICAL BUILDING.

4 CURB CAPPING FOR DEMOLOSHED ROOF EQUIP.
NOT TO SCALE

Freese and Nichols, Inc.
Texas Registered Engineering Firm F- 2144

STATE OF TEXAS
SATISH KUMAR RAVINDRAN
115979
LICENSED PROFESSIONAL ENGINEER
2/1/2021

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CITY OF AUSTIN
DAVIS WATER TREATMENT PLANT
MECHANICAL & PLUMBING
DETAILS II

F&N JOB NO. AU120400
DATE 2/1/2021
DESIGNED SKR
DRAWN RLP/AT
REVISED
CHECKED RMVR

NO.	ISSUE	BY	DATE

FILE NAME HVAC-AU120400-R19

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SHEET MP-9
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Plot Date: 2/1/2021 12:09:06 PM

SPLIT SYSTEM HEAT PUMP SCHEDULE

TAG	LOCATION	TYPE	COOLING							HEATING						PEAK FAN AIRFLOW (CFM)	E.S.P.	BLOWER HP	VOLT/HZ/PH	ELECTRICAL		MANUFACTURER/MODEL	NOTES
			NOMINAL SIZE (TON)	COOLING OUTDOOR TEMP. (°F)	DESIGN ENTERING TEMP DB/WB (°F)	DESIGN LEAVING TEMP DB/WB (°F)	NET COOLING CAPACITY (BTU/H)	NET SENSIBLE CAPACITY (BTU/H)	SEER @ AHRI	HEATING OUTDOOR DB (°F)	HEATING DESIGN ENTERING TEMP DB (°F)	HEATING SYSTEM LEAVING TEMP DB (°F)	HEATING CAPACITY @ 47F (BTU/H)	COP @ 47F	AUXILLARY HEAT (KW)					MCA	MOP		
AHU-1	MAINTENANCE BUILDING	SPLIT-SYSTEM HEAT PUMP	3	105	80.0/67.0	59.8/57.3	32,560	23,642	14	17	65.0	83.90	34400	3.5	7.21	1200	0.5	0.5	208/60/1	47	50	TRANE/TE	1,2,3
ACCU-1																-	-	-		18	30	TRANE/4TWR4	4,6

NOTES:
1. PROVIDE PROGRAMMABLE WALL THERMOSTAT.
2. PROVIDE MERV-8 PLEATED FILTERS.
3. PROVIDE PRIMARY CONDENSATE DRAIN PAN WITH UL APPROVED FLOAT SWITCH.
4. PROVIDE HAIL GUARD.
5. PROVIDE INTEGRAL DISCONNECT.
6. REUSE EXISTING CURB.
7. PROVIDE SINGLE POWER ENTRY KIT.

AIR HANDLING UNIT SCHEDULE

TAG	LOCATION	TYPE	CFM	ESP (INCHES WC)	BLOWER HP	DESIGN EAT/LAT (F)	HEATING CAPACITY (KW)	FAN RPM	ELECTRICAL			MANUFACTURER/MODEL	WEIGHT (LBS)	NOTES
									VOLT/PH/HZ	MCA	MOP			
MAU-1	CHLORINE AND AMMONIA BUILDING	100% OUTSIDE AIR ELECTRIC FURNACE	2,000	1.4	1.5	27.0/89.9	40	1308	480/3/60	70	100	REZNOR/REH-40A		2-8,10
MAU-2	CHLORINE AND AMMONIA BUILDING	100% OUTSIDE AIR ELECTRIC FURNACE	776	1.4	0.75	27.0/108.0	20	1188	480/3/60	35	50	REZNOR/REH-20A		2-8,10
AHU-2	MAINTENANCE BUILDING	ELECTRIC FURNACE	3,200	1	2	65/86.74	22	1113	480/3/60	38.99	40	TRANE/UCCAA06	438	1,2,4,8,9

NOTES:
1. PROVIDE UL-APPROVED FLOAT SWITCH IN PRIMARY DRAIN PAN.
2. PROVIDE WITH MERV-8 PLEATED FILTER.
3. REUSE EXISTING ROOF CURB.
4. PROVIDE INTEGRAL DISCONNECT.
5. PROVIDE MOTORIZED OUTSIDE AIR DAMPER, INTAKE HOOD AND BIRD SCREEN.
6. PROVIDE ELECTRIC HEAT MODULATION BY SCR.
7. PROVIDE SINGLE POWER ENTRY KIT.
8. PROVIDE PROGRAMMABLE WALL THERMOSTAT.
9. PROVIDE SUPPLY DUCT SMOKE DETECTORS FOR MAU-1 AND MAU-2. PROVIDE SUPPLY AND RETURN DUCT SMOKE DETECTOR FOR AHU-2.
10. PROVIDE LINE VOLTAGE PECO TF115.

PACKAGED ROOFTOP HEAT PUMP SCHEDULE

TAG	TYPE	NOMINAL SIZE (TON)	CFM	BLOWER HP	EFFICIENCY (SEER)	AUXILLARY HEAT CAPACITY (KW)	ELECTRICAL			NET WEIGHT (LBS)	MANUFACTURER/MODEL	NOTES
							VOLT/PH/HZ	MCA	MOCP			
AC-1	PACKAGED HEAT PUMP	2	800	0.33	14.0	6	208/1/60	60	60	328	TRANE/4WCC4	1-7
AC-2	PACKAGED HEAT PUMP	2.5	1000	0.5	14.0	6	208/1/60	64	70	329	TRANE/4WCC4	1-7

NOTES:
1. REUSE EXISTING ROOF CURB.
2. PROVIDE SINGLE POWER ENTRY KIT.
3. PROVIDE INTEGRAL DISCONNECT.
4. PROVIDE MOTORIZED OUTSIDE AIR DAMPER, INTAKE HOOD AND BIRD SCREEN.
5. PROVIDE UL-APPROVED FLOAT SWITCH IN PRIMARY DRAIN PAN.
6. PROVIDE MERV-8 PLEATED FILTER.
7. PROVIDE HAIL GUARD.

ELECTRIC WATER HEATER SCHEDULE

MARK	LOCATION	TANK CAPACITY (GALLONS)	KW	VOLT/PH	MANUFACTURER / MODEL	NOTES
WH-1	CHEMICAL BUILDING	50	6	208/1	A. O. SMITH/DVE-52-6	1,2
WH-2	MAINTENANCE BUILDING	50	6	208/1	A. O. SMITH/DVE-52-6	1,2

NOTES:
1. THERMOSTAT SET TO AT 105 DEGREES F.
2. PROVIDE WITH EXPANSION TANK SIZED AS RECOMMENDED BY WATER HEATER MANUFACTURER.

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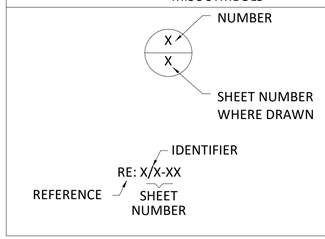
ABBREVIATIONS	
AC	ALTERNATING CURRENT
AF	AMP FRAME
AFD	ADJUSTABLE FREQUENCY DRIVE
AFF	ABOVE FINISHED FLOOR OR GRADE
AG	ABOVE GRADE
AGSB	ABOVE GROUND SPLICE BOX
AIC	AMPERES INTERRUPTING CAPACITY
AL OR ALUM	ALUMINUM
AMP OR A	AMPERE
AT	AMP TRIP
ATS	AUTOMATIC TRANSFER SWITCH
AUTO	AUTOMATIC
AUX	AUXILIARY
AWG	AMERICAN WIRE GAUGE
C.	CONDUIT
CB	CIRCUIT BREAKER
C/C	CENTER TO CENTER
CHH	COMMUNICATION HANDHOLE
CKT	CIRCUIT
CLF	CURRENT LIMITING FUSE
CMH	COMMUNICATION MANHOLE
CONT.	CONTINUATION
CP	CONTROL PANEL
CPT	CONTROL POWER TRANSFORMER
CR	CONTROL RELAY
CS	CONTROL SWITCH OR COMBINATION STARTER
CT	CURRENT TRANSFORMER
CU	COPPER
DC	DIRECT CURRENT
DI	DOOR INTERLOCK
DN	DOWN
DP	DIFFERENTIAL PRESSURE
DWG	DRAWING
EMH	ELECTRICAL MANHOLE
EC	EMPTY CONDUIT
ELEC	ELECTRICAL
ELEV	ELEVATION
EM	EMERGENCY
EHH	ELECTRICAL MANHOLE
EO	ELECTRICALLY OPERATED
ETM	ELAPSED TIME METER
EUC	ELECTRIC UTILITY CO.
EXIST.	EXISTING
FBO	FURNISHED BY OTHERS
FO	FIBER OPTIC
FRP	FIBERGLASS REINFORCED POLYESTER
FT	FEET
FU	FUSE
G. OR GRD	GROUND
GA.	GAUGE
GCP	GENERATOR CONTROL PANEL
GEN	GENERATOR
GFI	GROUND FAULT INTERRUPTER
GFS	GROUND FAULT SENSING
GO	GATE OPERATOR
GRS	GALVANIZED RIGID STEEL
HH	HANDHOLE
HP	HORSEPOWER
HT	HEIGHT
HTP	HEAT TRACE PANEL
HTR	HEATER
HZ	HERTZ
ID	INTERNAL DIAMETER
IMH	INSTRUMENT MANHOLE
INST	INSTRUMENT
IRP	INTERPOSING RELAY PANEL
JB	JUNCTION BOX
KVA	KILOVOLT-AMPERE
KW	KILOWATT
LA	LIGHTNING ARRESTER
LC	LIGHTNING CONTACTOR
LED	LIGHT EMITTING DIODE
LGTS ON LTG	LIGHTS/LIGHTING
LP	LIGHTING PANEL
LSIG	LONG, SHORT, INSTANTANEOUS, GROUND
MBFV	MOTOR OPERATED BUTTERFLY VALVE
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MCP	MOTOR CIRCUIT PROTECTOR
MFR	MANUFACTURER
MFR'S	MANUFACTURER'S
MH	MANHOLE
ML	MULTILIN
MM	MULTIMODE
MOV	MOTOR OPERATED VALVE
MLO	MAIN LUGS ONLY
MPR	MOTOR PROTECTION RELAY
MR	MULTIRATIO
MTD	MOUNTED

ABBREVIATIONS	
MTG	MOUNTING
MTS	MANUAL TRANSFER SWITCH
NC or N.C.	NORMALLY CLOSED
NF	NON-FUSED
NO or N.O.	NORMALLY OPEN OR NUMBER
NO.	NUMBER
OD	OUTSIDE DIAMETER
OHE	OVERHEAD ELECTRIC
OL	OVERLOAD
OLX	OVERLOAD CONTROL RELAY
P	POLE
PB	PULL BOX OR PUSH BUTTON
PC	PHOTOCELL
PCC	PUMP CONTROL CONSOLE
PFR	PHASE FAILURE RELAY
PH	PHASE
PL.	PLATE
PLC	PROGRAMMABLE LOGIC CONTROLLER
PPR	PHASE PROTECTIVE RELAY
PR.	PAIR OR PAIR CABLE
PT	POTENTIAL TRANSFORMER
PTT	PUSH TO TEST TYPE
PVC	POLYVINYL CHLORIDE
QTY	QUANTITY
RC	REMOTE CONTROL
RCP	RELAY CONTROL PANEL
REC.	CIRCUIT RECLOSURE
RECP	RECEPTACLES
REQD.	REQUIRED
RTD	RESISTANCE TEMPERATURE DETECTOR
RTU	REMOTE TERMINAL UNIT
RVAT	REDUCED VOLTAGE AUTO-TRANSFORMER
SC	SURGE CAPACITOR
SCH	SCHEMATIC
SCTB	SHORT CIRCUIT TERMINAL BLOCK
SEC	SECONDS OR SECONDARY
SHLD. OR SH	SHIELD OR SHIELDED
SHT	SHEET
SM	SINGLE-MODE
SN OR S/N	SOLID NEUTRAL
SPD	SURGE PROTECTION DEVICES
SSRVS	SOLID-STATE REDUCED VOLTAGE STARTER
SS	STAINLESS STEEL
ST	STARTER
STA.	STATION
STC	SIGNAL TERMINATION CABINET
SV	SOLENOID VALVE
SW	SWITCH
SWGR	SWITCHGEAR
TC	TERMINATION CABINET OR TRAY CABLE
TEL	TELEPHONE
TO	TIME DELAY ON OPENING
TPR	TRANSFORMER PROTECTION RELAY
TR	TRIAD
TS	TEMPERATURE SWITCH
TW	TWISTED
TYP	TYPICAL
UG	UNDERGROUND
UPS	UNINTERRUPTIBLE POWER SUPPLY
UTP	UNSHIELDED TWISTED PAIR CABLE
V	VOLTS
VAR.	VARIABLE
VFD	VARIABLE FREQUENCY DRIVE
VFI	VACUUM FAULT INTERUPTER
VO	VALVE OPERATOR
W	WITH, WIRE OR WATT
WP	WEATHERPROOF
WR	WEATHER RESISTANT
XFMR	TRANSFORMER
XMTR	TRANSMITTER
XP	EXPLOSION PROOF

NOTE:

THIS IS A STANDARD LEGEND. THEREFORE NOT ALL OF THIS INFORMATION MAY BE USED ON THIS PROJECT.

MISC SYMBOLS



PLAN SYMBOL	DESCRIPTION
b A	LIGHTING FIXTURE "A" - FIXTURE TYPE "b" - SWITCH NUMBER
A	EMERGENCY BATTERY PACK LIGHT FIXTURE "A" - FIXTURE TYPE
X	CEILING MOUNTED EXIT SIGN "X" - FIXTURE TYPE
X	WALL MOUNTED EXIT SIGN ARROW INDICATES DIRECTION OF EGRESS "X" - FIXTURE TYPE
FACP	FIRE ALARM CONTROL PANEL
F	MANUAL PULL STATION
	CEILING MOUNTED STROBE
	WALL MOUNTED STROBE
	SMOKE DETECTOR
	HEAT DETECTOR
	HORN
	COMBINATION STROBE/HORN
	CONDUIT, EXPOSED/SURFACE MOUNTED
	CONDUIT OR DUCTBANK, CONCEALED
	CONDUIT, EXPOSED/SURFACE MOUNTED, TURNING UP
	CONDUIT, EXPOSED/SURFACE MOUNTED, TURNING DOWN
	CONDUIT STUBBED OUT AND CAPPED
OHE	OVERHEAD ELECTRIC LINE
UGE	UNDERGROUND ELECTRIC LINE
OHP	OVERHEAD PRIMARY LINE
UGP	UNDERGROUND PRIMARY LINE
OHS	OVERHEAD SECONDARY LINE
UGS	UNDERGROUND SECONDARY LINE
OHC	OVERHEAD COMMUNICATION LINE
UGC	UNDERGROUND COMMUNICATION LINE
OHFO	OVERHEAD FIBER OPTIC LINE
UGFO	UNDERGROUND FIBER OPTIC LINE
	FLEXIBLE METAL CONDUIT
	HEAT TRACE
2(3 #3/0, #2G., 3"C.)	DENOTES A QUANTITY OF TWO (2) 3-INCH CONDUITS EACH CONTAINING THREE NO. 3/0 AWG CONDUCTORS AND ONE NO.2 AWG GROUND CONDUCTOR
2-2/C #16	DENOTES A QUANTITY OF TWO INSTRUMENT CABLES. EACH CONSISTS OF TWO NO.16 AWG CONDUCTORS
3-4"C	THREE 4-INCH CONDUITS
MC1-XXX 4 #14, #14G., 3/4"C. (2 #14 SPARE)	CABLE TAG FOUR #14 CONTROL OR POWER CONDUCTORS, ONE #14 GROUND CONDUCTOR. ALL CONDUCTORS IN A 3/4" CONDUIT. TWO OF THE FOUR #14 CONTROL OR POWER CONDUCTORS ARE SPARE.
LA-1,3	HOMERUN, CIRCUITS 1 AND 3 RUN TO PANEL LA 2 #12, #12G., 3/4"C. UNLESS NOTED OTHERWISE
$b	SINGLE POLE SWITCH "b" - INDICATES SWITCH LEG SHALL CONTROL LIGHT FIXTURES WITH "b" - DESIGNATION
$Xc	MULTI POLE SWITCH "x" - INDICATES NUMBER OF POLE "c" - INDICATES SWITCH SHALL CONTROL LIGHT FIXTURES WITH "c" DESIGNATION
$M	MANUAL MOTOR STARTER /DISCONNECT
$3	3 WAY SWITCH
$4	4 WAY SWITCH
$D D	DIMMER LIGHTING CONTROL SWITCH
$TM TM	TIME SWITCH
	DUPLEX RECEPTACLE, 20A, 120V, 2P, 3W "C" - MOUNTED ABOVE COUNTERTOP "GFI" OR "GF" - GROUND FAULT INTERRUPTER TYPE "WP" - WEATHERPROOF
F	FLOOR MOUNTED RECEPTACLE
	SIMPLEX RECEPTACLE, GROUNDED TYPE
	QUADPLEX RECEPTACLE

PLAN SYMBOL	DESCRIPTION
J J	JUNCTION BOX
PB	PULL BOX
TC	TERMINAL CABINET
OS	OCCUPANCY SENSOR
PC	PHOTOCELL
PW	PREWIRED
MH	MANHOLE
M	UTILITY METER
M	MOTORIZED LOUVER
DAMP	INDICATES THAT ALL ELECTRICAL EQUIPMENT AND MATERIALS INSTALLED WITHIN THE ROOM OR AREA IN WHICH THIS NOTATION APPEARS SHALL BE OF NEMA 12 CONSTRUCTION UNLESS OTHERWISE NOTED
WET	INDICATES THAT ALL ELECTRICAL EQUIPMENT AND MATERIALS INSTALLED WITHIN THE ROOM OR AREA IN WHICH THIS NOTATION APPEARS SHALL BE OF NEMA 4 CONSTRUCTION UNLESS OTHERWISE NOTED
CORROSIVE	INDICATES THAT ALL ELECTRICAL EQUIPMENT AND MATERIALS INSTALLED WITHIN THE ROOM OR AREA IN WHICH THIS NOTATION APPEARS SHALL BE OF NEMA 4X CONSTRUCTION UNLESS OTHERWISE NOTED
CLASS I, DIV.1, GROUP D	INDICATES THAT ALL ELECTRICAL EQUIPMENT AND MATERIALS INSTALLED WITHIN THE ROOM OR AREA IN WHICH THIS NOTATION APPEARS SHALL CONFORM TO N.E.C REQUIREMENTS FOR THE HAZARDOUS AREA CLASSIFICATION SHOWN

ONE-LINE OR CONTROL DIAGRAM	PLAN	DESCRIPTION
	OR	PANEL
5	M	MOTOR, NUMBER DESIGNATES HORSEPOWER
VM ✳	-	VOLTMETER (WITH SWITCH IF 3-PHASE)
AM ✳	-	AMMETER (WITH SWITCH IF 3-PHASE)
✳	-	✳ METER WM - WATTMETER WHM - WATTHOUR METER WHDM - WATTHOUR DEMAND METER WHDR - WATTHOUR DEMAND RECORDER PF - POWER FACTOR METER ETM - ELAPSED TIME METER TRANSDUCER AX - CURRENT TRANSDUCER WX - WATT TRANSDUCER
#	-	RELAY, NO. AS INDICATED 25 - SYNCHRONISM CHECK RELAY 27 - UNDER VOLTAGE RELAY 38 - BEARING PROTECTIVE DEVICE 40 - LOSS OF EXCITATION RELAY 42 - RUNNING CONTACTOR/PILOT RELAY 46 - REVERSE PHASE/PHASE BALANCE/CURRENT RELAY 47 - PHASE SEQUENCE VOLTAGE RELAY 48 - MACHINE OR TRANSFORMER THERMAL RELAY 50 - INSTANTANEOUS OVERCURRENT RELAY 50G - INSTANTANEOUS GROUND 51 - TIME OVER CURRENT RELAY, GROUNDING RESISTOR TYPE 51N - TIME OVERCURRENT RELAY, RESIDUAL TYPE 51V - TIME OVERCURRENT RELAY WITH VOLTAGE RESTRAINT 59 - OVER VOLTAGE RELAY 60 - NEGATIVE SEQUENCE VOLTAGE RELAY 62 - TIME DELAY RELAY 63 - OVER PRESSURE RELAY 67 - AC DIRECTIONAL OVERCURRENT RELAY 83 - AUTOMATIC SELECTIVE CONTROL OR TRANSFER RELAY 86 - LOCKING-OUT RELAY 87 - DIFFERENTIAL PROTECTIVE RELAY B - SUFFIX INDICATES "BUS" G - SUFFIX INDICATES "GENERATOR" GF - GROUND FAULT IR - INTERPOSING RELAY PFR - PHASE FAILURE, PHASE REVERSAL, UNDERVOLTAGE, OVERVOLTAGE RELAY ST - SHUNT TRIP T - SUFFIX INDICATES "TRANSFORMER" TRP CAP - CAPACITOR TRIP X - SUFFIX INDICATES "AUXILIARY"

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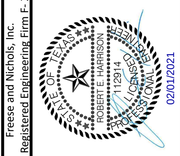

CITY OF AUSTIN
DAVIS WATER TREATMENT PLANT

ELECTRICAL

LEGEND AND ABBREVIATIONS

F&N JOB NO.	AU120400
DATE	2/1/2021
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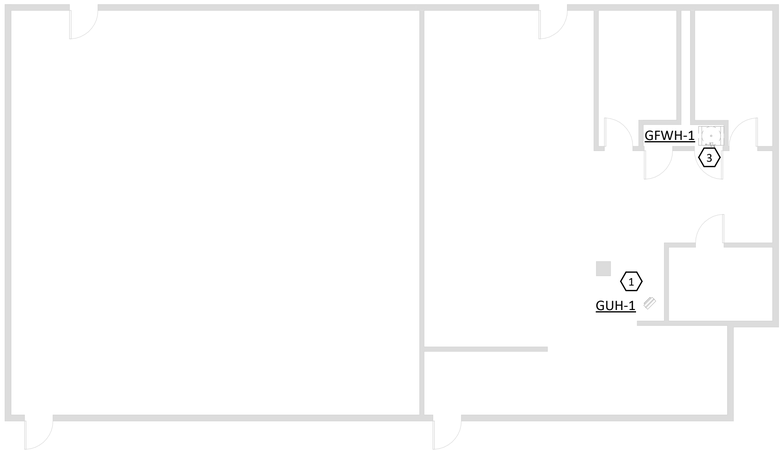
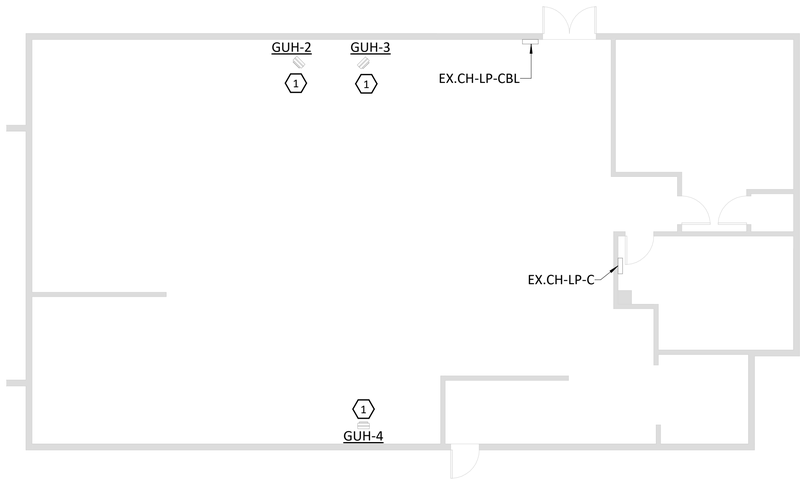


1 DEMOLITION PLAN - BASEMENT
1/8" = 1'-0"



2 DEMOLITION PLAN - FIRST FLOOR
1/8" = 1'-0"

GENERAL NOTES:

1. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING ALL ABANDONED CONDUIT. FIELD VERIFY ALL REQUIREMENTS.
2. REMOVE ALL ELECTRICAL CONDUITS, WIRES, AND ASSOCIATED FASTENERS, SUPPORTS, AND BEAM CLAMPS WHERE POSSIBLE. BACKBOXES AND CONDUIT IN MASONRY WALLS MAY BE ABANDONED IN PLACE. CUT CONDUIT FLUSH WITH WALL, REMOVE EXPOSED CONDUIT COMPLETELY. CONDUIT ABOVE CEILING SHALL BE REMOVED. PROVIDE APPROPRIATE SIZE BLANK COVERPLATE FOR UNUSED BACKBOXES.
3. ALL VOIDS LEFT FROM CONDUIT AND/OR WIRING REMOVAL IN BUILDING EXTERIOR WALLS SHALL BE SEALED WATERTIGHT. ALL VOIDS LEFT FROM CONDUIT AND/OR WIRING REMOVAL IN INTERIOR WALLS SHALL BE PATCHED AND/OR FIREPROOFED AS REQUIRED TO MAINTAIN THE INTEGRITY OF THE PARTITION AND PAINTED TO MATCH EXISTING FINISHES.
4. THE OWNER SHALL BE GIVEN THE FIRST RIGHT OF REFUSAL FOR ALL EQUIPMENT BEING DEMOLISHED. THE CONTRACTOR SHALL STORE ALL EQUIPMENT THAT THE OWNER ELECTS TO KEEP AT THE LOCATION ON SITE TO BE DESIGNATED BY THE OWNER. ALL OTHER EQUIPMENT SHALL BE DEMOLISHED AND PROPERLY DISPOSED OF BY THE CONTRACTOR.
5. PRIOR TO DEMOLITION WORK, CONTRACTOR SHALL IDENTIFY ALL CONDUITS, WIRING AND EQUIPMENT TO REMAIN TO PREVENT DAMAGE.
6. LABEL SCHEDULE AS "SPARE" FOR ALL CIRCUITS THAT BEEN MADE AVAILABLE DUE TO DEMOLITION OF LOAD. LEAVE THE CIRCUIT BREAKER IN THE "OFF" POSITION.
7. DEMOLISH ONLY EQUIPMENT SHOWN ON DRAWINGS OR DIRECTED IN NOTES. COORDINATE ALL DEMOLITION EFFORTS WITH OWNER AND OTHER TRADES BEFORE BEGINNING WORK.

NOTES BY SYMBOL "⬡"

1. DISCONNECT AND REMOVE ELECTRICAL CIRCUIT, DEVICES, WIRE AND CONDUIT BACK TO SOURCE. FIELD VERIFY EXISTING CONDITIONS PRIOR TO START OF DEMOLITION WORK. REFER TO SHEET E-11 FOR EXISTING ONE-LINE DIAGRAM.
2. MAKE EXISTING CIRCUIT BREAKER A SPARE BREAKER AND UPDATE PANEL DIRECTORY.
3. REMOVE GFWH-1 LOAD FROM CIRCUIT CH-LP-C-25. AFTER GFWH-1 LOAD IS REMOVED, CIRCUIT BREAKER TO REMAIN IN ACTIVE AND "ON" POSITION. FIELD VERIFY EXISTING CONDITIONS PRIOR TO START OF DEMOLITION WORK.

PANEL NO. EX. CH-LP-C

SERVICE VOLTAGE 208Y/120V | MCB RATING 100 A | LOCATION
A.I.C. | BUS RATING | FEED FROM
NEUTRAL BUS 100% | SECTIONS 1

CKT NO.	DESCRIPTION	POLE	TRIP	A		B		C		TRIP	POLE	DESCRIPTION	CKT NO.
1	EXISTING LOAD	1	20 A	1440	1440					20 A	1	EXISTING LOAD	2
3	EXISTING LOAD	1	20 A			1440	1440			20 A	1	EXISTING LOAD	4
5	EXISTING LOAD	1	20 A					1440	1440	20 A	1	EXISTING LOAD	6
7	PREPARED SPACE	--	--	0	0					20 A	1	EXISTING LOAD	8
9	EXISTING LOAD	1	20 A			1440	0			20 A	1	SPARE	10
11	SPARE	1	20 A					0	0	20 A	1	SPARE	12
13	EXISTING LOAD	1	20 A	1440	1440					20 A	1	EXISTING LOAD	14
15	EXISTING LOAD	1	20 A			1440	0			20 A	1	SPARE	16
17	EXISTING LOAD	1	20 A					1440	0	20 A	1	SPARE	18
19	EXISTING LOAD	1	20 A	1440	1440					20 A	1	EXISTING LOAD	20
21	EXISTING LOAD	1	20 A			1440	1440			20 A	1	EXISTING LOAD	22
23	EXISTING LOAD	1	20 A					1440	1440	20 A	1	EXISTING LOAD	24
1 3 25	EX. LOADS WATER HEATER, BMT VENT...	1	20 A	1440	0					20 A	1	EXISTING LOAD	26
27	PREPARED SPACE	--	--			0	0			--	--	PREPARED SPACE	28
29	PREPARED SPACE	--	--					0	0	--	--	PREPARED SPACE	30
31	PREPARED SPACE	--	--	0	0					--	--	PREPARED SPACE	32
	PHASE TOTALS			10080 VA		8640 VA		7200 VA					
				86 A		74 A		60 A					
	PANEL UNBALANCE			17 %									

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS	
				TOTAL CONNECTED LOAD:	25920 VA
				TOTAL CONNECTED AMPS:	72 A
				NON COINCIDENT LOAD:	0 VA
				NON COINCIDENT AMPS:	0 A
				TOTAL DEMAND LOAD:	25920 VA
				TOTAL DEMAND LOAD AMPS:	72 A

NOTES:

PANEL NO. EX. CH-LP-CBL

SERVICE VOLTAGE 208Y/120V | MCB RATING 100 A | LOCATION
A.I.C. | BUS RATING | FEED FROM
NEUTRAL BUS 100% | SECTIONS 1

CKT NO.	DESCRIPTION	POLE	TRIP	A		B		C		TRIP	POLE	DESCRIPTION	CKT NO.
1	EXISTING LOAD	1	20 A	540	1225					20 A	1	EXISTING LOAD	2
3	EXISTING LOAD	1	20 A			540	1225			20 A	1	EXISTING LOAD	4
5	EXISTING LOAD	1	20 A					720	1225	20 A	1	EXISTING UNIT HEATERS 1 AND 2 LOAD	6 (1 2)
7	EXISTING LOAD	1	20 A	720	400					20 A	1	EXISTING UNIT HEATERS 3 AND 4 LOAD	8 (1 2)
9	SPARE	1	20 A			0	300			20 A	1	EXISTING LOAD	10
11	EXISTING LOAD	1	20 A					400	0	20 A	1	SPARE	12
13	SPARE	1	20 A	0	200					20 A	1	EXISTING LOAD	14
15	SPARE	1	20 A			1300	0			20 A	1	EXISTING LOAD	16
17	EXISTING LOAD	1	20 A					1400	0	20 A	1	SPARE	18
19	PREPARED SPACE	--	--	0	1200					20 A	2	SPARE	20
21	PREPARED SPACE	--	--			0	1200						22
23	PREPARED SPACE	--	--					0	0	--	--	PREPARED SPACE	24
25	EXISTING LOAD	3	60 A	0	0					--	--	PREPARED SPACE	26
27						0	0			--	--	PREPARED SPACE	28
29								0	0	--	--	PREPARED SPACE	30
	PHASE TOTALS			4285 VA		4565 VA		3745 VA					
				36 A		39 A		31 A					
	PANEL UNBALANCE			11 %									

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS	
				TOTAL CONNECTED LOAD:	12595 VA
				TOTAL CONNECTED AMPS:	35 A
				NON COINCIDENT LOAD:	0 VA
				NON COINCIDENT AMPS:	0 A
				TOTAL DEMAND LOAD:	12595 VA
				TOTAL DEMAND LOAD AMPS:	35 A

NOTES:

0 4' 8' 16'
1/8"=1'-0"

ISSUE FOR BID

Freese and Nichols, Inc.
Texas Registered Engineering Firm F- 2144
STATE OF TEXAS ROBERT E. HARRISON 129444 LICENSED PROFESSIONAL ENGINEER 02/01/2021
FREESE NICHOLS
10431 Morado Circle Building 5
Suite 300
Austin, TX 78759
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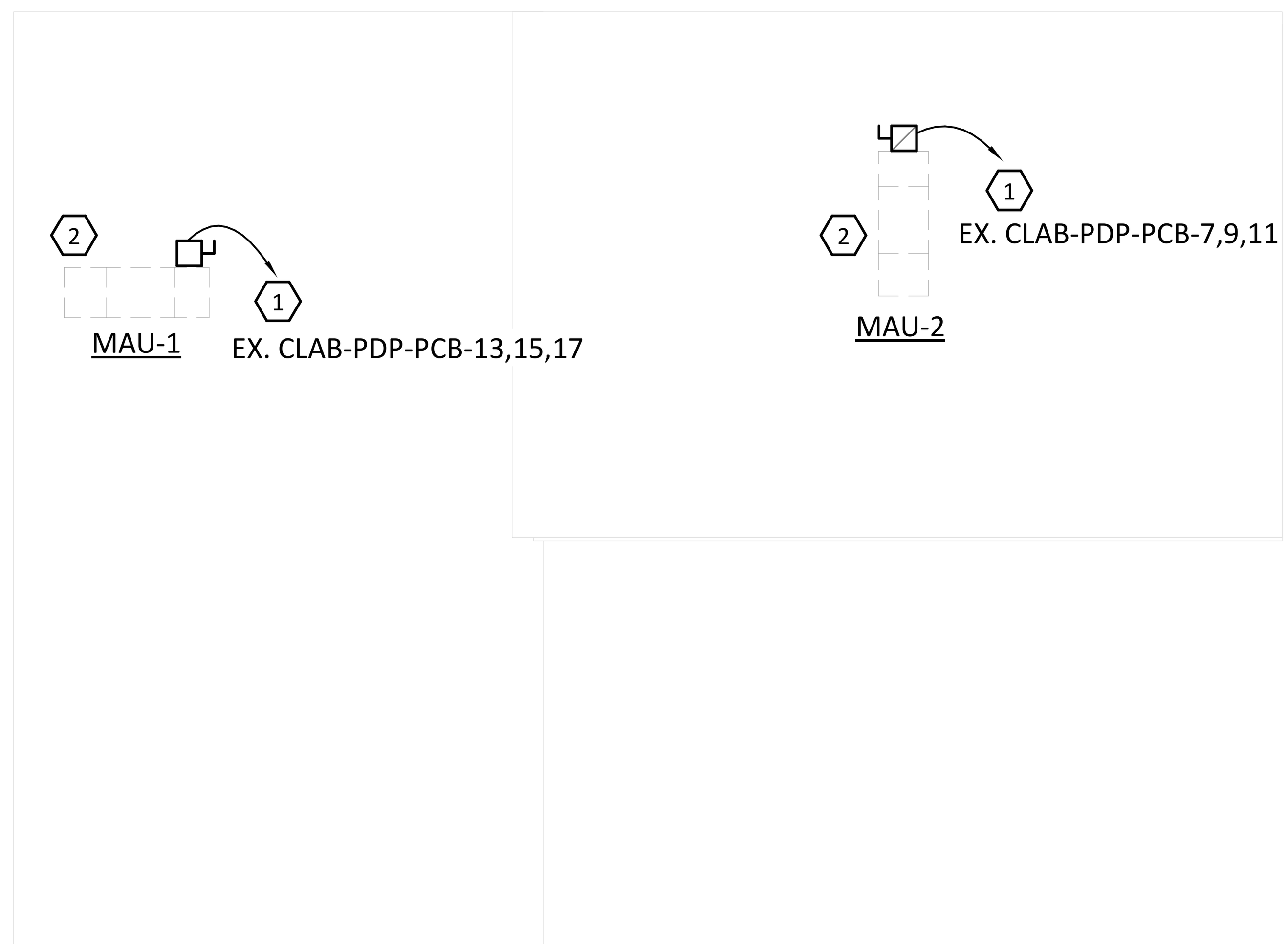
CITY OF AUSTIN
DAVIS WATER TREATMENT PLANT
ELECTRICAL
CHEMICAL BUILDING
DEMOLITION PLANS

F&N JOB NO.	AU120400					
DATE	2/1/2021					
DESIGNED	MCD					
DRAWN	RLP					
REVISED	-					
CHECKED	REH					
NO.	ISSUE	BY	DATE	FILE NAME		
1	Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.			EL-AU120400-R19		

VERIFY SCALE 0 1

SHEET E-1
SEQ.

Plot Date: 2/1/2021 1:02:51 PM



1 DEMOLITION PLAN - ROOF

1/8" = 1'-0"

PANEL NO. EX....

SERVICE VOLTAGE	480Y/277V	MCB RATING	125 A	LOCATION	
A.I.C.		BUS RATING		FEED FROM	
		NEUTRAL BUS	100%	SECTIONS	1

CKT NO.	DESCRIPTION	POLE	TRIP	A	A	B	B	C	C	TRIP	POLE	DESCRIPTION	CKT NO.
1	CHLORINE STORAGE ROOM VENT FAN ("EX-CLAB-VF-001") AND AMMONIA...	3	20 A	2798	443					20 A	3	AMMONIA STORAGE ROOM VENT FAN ("EX. CLAB-VF-002")	2
3						2798	443						4
5								2798	443				6
7	(1) EX.MAU #2	3	20 A	4432	305					20 A	3	SECONDE FLOOR FEEDER ROOMS AND CONTROL ROOM VENT FAN...	8
9						4432	305						10
11								4432	305				12
13	(1) EX. MAU #1	3	20 A	4432	11080					50 A	3	EX. TRANSFORMER ('CH-XFMR-LPL")	14
15						4432	11080						16
17								4432	11080				18
19	SPARE	3	20 A	0	0					125 A	3	MAIN CIRCUIT BREAKER	20
21						0	0						22
23								0	0				24
25	EX. CHLORINE SCRUBBER ("EX. CLAB-CLSC-001")	3	90 A	14404	3047					25 A	3	AMMONIA SCRUBBER ("EX.CLAB-AMS-001")	26
27						14404	3047						28
29								14404	3047				30
31	EX. CHLORINE STORAGE ROOM BRIDGE CRANE HOIST TROLLLEY ("EX....	3	40 A	942	0					20 A	1	SPARE	32
33						942	0			20 A	1	SPARE	34
35								942	0	20 A	1	SPARE	36
37	SPARE	1	20 A	0	0					20 A	1	SPARE	38
39	SPARE	1	20 A			0	0			20 A	1	SPARE	40
41	SPARE	1	20 A					0	0	20 A	1	SPARE	42
	PHASE TOTALS			41883 VA		41883 VA		41883 VA					
				151 A		151 A		151 A					
	PANEL UNBALANCE					0 %							

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS	
				TOTAL CONNECTED LOAD:	125649 VA
				TOTAL CONNECTED AMPS:	151 A
				NON COINCIDENT LOAD:	0 VA
				NON COINCIDENT AMPS:	0 A
				TOTAL DEMAND LOAD:	125649 VA
				TOTAL DEMAND LOAD AMPS:	151 A

NOTES:

GENERAL NOTES:

1. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING ALL ABANDONED CONDUIT. FIELD VERIFY ALL REQUIREMENTS.
2. REMOVE ALL ELECTRICAL CONDUITS, WIRES, AND ASSOCIATED FASTENERS, SUPPORTS, AND BEAM CLAMPS WHERE POSSIBLE. BACKBOXES AND CONDUIT IN MASONRY WALLS MAY BE ABANDONED IN PLACE. CUT CONDUIT FLUSH WITH WALL, REMOVE EXPOSED CONDUIT COMPLETELY. CONDUIT ABOVE CEILING SHALL BE REMOVED. PROVIDE APPROPRIATE SIZE BLANK COVERPLATE FOR UNUSED BACKBOXES.
3. ALL VOIDS LEFT FROM CONDUIT AND/OR WIRING REMOVAL IN BUILDING EXTERIOR WALLS SHALL BE SEALED WATERTIGHT. ALL VOIDS LEFT FROM CONDUIT AND/OR WIRING REMOVAL IN INTERIOR WALLS SHALL BE PATCHED AND/OR FIREPROOFED AS REQUIRED TO MAINTAIN THE INTEGRITY OF THE PARTITION AND PAINTED TO MATCH EXISTING FINISHES.
4. THE OWNER SHALL BE GIVEN THE FIRST RIGHT OF REFUSAL FOR ALL EQUIPMENT BEING DEMOLISHED. THE CONTRACTOR SHALL STORE ALL EQUIPMENT THAT THE OWNER ELECTS TO KEEP AT THE LOCATION ON SITE TO BE DESIGNATED BY THE OWNER. ALL OTHER EQUIPMENT SHALL BE DEMOLISHED AND PROPERLY DISPOSED OF BY THE CONTRACTOR.
5. CONTRACTOR SHALL IDENTIFY ALL CONDUITS, WIRING AND EQUIPMENT TO REMAIN TO PREVENT DAMAGE.
6. LABEL SCHEDULE AS "SPARE" FOR ALL CIRCUITS THAT BEEN MADE AVAILABLE DUE TO DEMOLITION OF SOURCE. LEAVE THE CIRCUIT BREAKER IN THE "OFF" POSITION.
7. DEMOLISH ONLY EQUIPMENT SHOWN ON DRAWINGS OR DIRECTED IN NOTES. COORDINATE ALL DEMOLITION EFFORTS WITH OWNER AND OTHER TRADES BEFORE BEGINNING WORK.

NOTES BY SYMBOL "⬡"

1. DISCONNECT AND REMOVE ELECTRICAL DISCONNECT SWITCHES, WIRE AND CONDUIT BACK TO SOURCE. FIELD VERIFY EXISTING CONDITIONS PRIOR TO START OF DEMOLITION WORK. REFER TO SHEET E-12 FOR EXISTING ONE-LINE DIAGRAM.
2. REFER TO DIV 16 SPEC 16670 FOR LIGHTNING PROTECTION REQUIREMENTS.

0 4' 8' 16'
1/8"=1'-0"

NORTH

ISSUE FOR BID

Freese and Nichols, Inc.
Texas Registered Engineering Firm F- 2144

STATE OF TEXAS
ROBERT E. HARRISON
112914
LICENSED PROFESSIONAL ENGINEER
02/01/2021

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CITY OF AUSTIN
DAVIS WATER TREATMENT PLANT

ELECTRICAL
CHLORINE AND AMMONIA BUILDING
DEMOLITION PLAN - ROOF

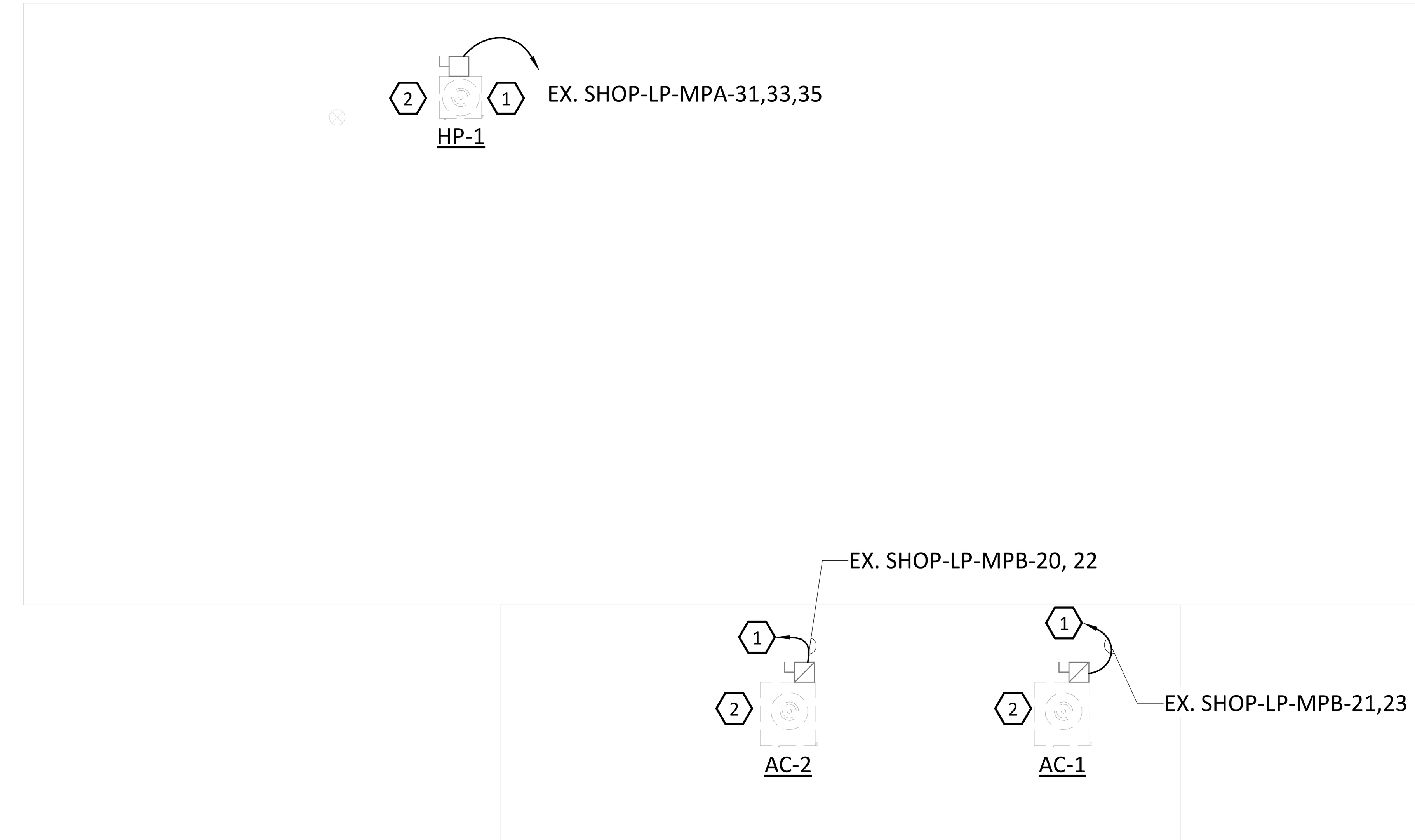
F&N JOB NO.	AU120400
DATE	2/1/2021
DESIGNED	MCD
DRAWN	RLP
REVISED	-
CHECKED	REH
FILE NAME	EL-AU120400-R19

NO.	ISSUE	BY	DATE

VERIFY SCALE 0 1
Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.

SHEET
E-2
SEQ.

1 DEMOLITION PLAN - MEZZANINE
1/8" = 1'-0"



2 DEMOLITION PLAN - ROOF
1/8" = 1'-0"

GENERAL NOTES:

1. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING ALL ABANDONED CONDUIT. FIELD VERIFY ALL REQUIREMENTS.
2. REMOVE ALL ELECTRICAL CONDUITS, WIRES, AND ASSOCIATED FASTENERS, SUPPORTS, AND BEAM CLAMPS WHERE POSSIBLE. BACKBOXES AND CONDUIT IN MASONRY WALLS MAY BE ABANDONED IN PLACE. CUT CONDUIT FLUSH WITH WALL, REMOVE EXPOSED CONDUIT COMPLETELY. CONDUIT ABOVE CEILING SHALL BE REMOVED. PROVIDE APPROPRIATE SIZE BLANK COVERPLATE FOR UNUSED BACKBOXES.
3. ALL VOIDS LEFT FROM CONDUIT AND/OR WIRING REMOVAL IN BUILDING EXTERIOR WALLS SHALL BE SEALED WATERTIGHT. ALL VOIDS LEFT FROM CONDUIT AND/OR WIRING REMOVAL IN INTERIOR WALLS SHALL BE PATCHED AND/OR FIREPROOFED AS REQUIRED TO MAINTAIN THE INTEGRITY OF THE PARTITION AND PAINTED TO MATCH EXISTING FINISHES.
4. THE OWNER SHALL BE GIVEN THE FIRST RIGHT OF REFUSAL FOR ALL EQUIPMENT BEING DEMOLISHED. THE CONTRACTOR SHALL STORE ALL EQUIPMENT THAT THE OWNER ELECTS TO KEEP AT THE LOCATION ON SITE TO BE DESIGNATED BY THE OWNER. ALL OTHER EQUIPMENT SHALL BE DEMOLISHED AND PROPERLY DISPOSED OF BY THE CONTRACTOR.
5. CONTRACTOR SHALL IDENTIFY ALL CONDUITS, WIRING AND EQUIPMENT TO REMAIN TO PREVENT DAMAGE.
6. LABEL SCHEDULE AS "SPARE" FOR ALL CIRCUITS THAT BEEN MADE AVAILABLE DUE TO DEMOLITION OF SOURCE. LEAVE THE CIRCUIT BREAKER IN THE "OFF" POSITION.
7. DEMOLISH ONLY EQUIPMENT SHOWN ON DRAWINGS OR DIRECTED IN NOTES. COORDINATE ALL DEMOLITION EFFORTS WITH OWNER AND OTHER TRADES BEFORE BEGINNING WORK.

NOTES BY SYMBOL "⬡"

1. DISCONNECT AND REMOVE ELECTRICAL DICONNECT SWITCHES, WIRE AND CONDUIT BACK TO SOURCE. FIELD VERIFY EXISTING CONDITIONS PRIOR TO START OF DEMOLITION WORK. REFER TO SHEET E-13 FOR ONE-LINE DIAGRAM.
2. REFER TO DIV 16 SPEC 16670 FOR LIGHTNING PROTECTION REQUIREMENTS.

PANEL NO. EX. SHOP-LP-MPA

SERVICE VOLTAGE 208Y/120V
A.I.C.
MCB RATING 100 A
BUS RATING
NEUTRAL BUS 100%
LOCATION
FEED FROM
SECTIONS 1

CKT NO.	DESCRIPTION	POLE	TRIP	A		B		C		TRIP	POLE	DESCRIPTION	CKT NO.
1	EXISTING LOAD	1	20 A	720	0					20 A	1	EXISTING LOAD	2
3	EXISTING LOAD	1	20 A			720	720			20 A	1	EXISTING LOAD	4
5	EXISTING LOAD	1	20 A					1000	720	20 A	1	EXISTING LOAD	6
7	EXISTING LOAD	1	20 A	1000	720					20 A	1	EXISTING LOAD	8
9	EXISTING LOAD	1	20 A			1000	1000			20 A	1	EXISTING LOAD	10
11	EXISTING LOAD	1	20 A					540	1000	20 A	1	EXISTING LOAD	12
13	EXISTING HEATING UNIT CONTROL	1	20 A	900	1000					20 A	1	EXISTING LOAD	14
15	EXISTING LOAD	1	20 A			510	720			20 A	1	EXISTING LOAD	16
17	EXISTING LOAD	1	20 A					900	360	20 A	1	EXISTING LOAD	18
19	EXISTING LOAD	1	20 A	900	720					20 A	3	SPARE	20
21	SPARE	2	70 A			900	6000						22
23								0	530				24
25	SPARE	3	20 A	0	6000					20 A	1	SPARE	26
27						0	530			20 A	1	SPARE	28
29								0	1000	20 A	1	SPARE	30
31	⬡1 EXISTING HP-1	3	20 A	0	530					20 A	1	SPARE	32
33						0	0			20 A	1	SPARE	34
35								0	0	20 A	1	SPARE	36
37	SPARE	1	20 A	0	1000					20 A	1	SPARE	38
39	SPARE	1	20 A			0	0			20 A	1	SPARE	40
41	SPARE	1	20 A					0	0	20 A	1	SPARE	42
	PHASE TOTALS			13490 VA		12100 VA		6050 VA					
				120 A		109 A		50 A					
	PANEL UNBALANCE			43 %									

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS	
				TOTAL CONNECTED LOAD:	31640 VA
				TOTAL CONNECTED AMPS:	88 A
				NON COINCIDENT LOAD:	0 VA
				NON COINCIDENT AMPS:	0 A
				TOTAL DEMAND LOAD:	31640 VA
				TOTAL DEMAND LOAD AMPS:	88 A

NOTES:

PANEL NO. EX. SHOP-LP-MPB

SERVICE VOLTAGE
A.I.C.
MCB RATING 100 A
BUS RATING
NEUTRAL BUS 100%
LOCATION
FEED FROM
SECTIONS 1

CKT NO.	DESCRIPTION	POLE	TRIP	A		B		C		TRIP	POLE	DESCRIPTION	CKT NO.
1	EXISTING LOAD	1	20 A	720	800					20 A	1	EXISTING LOAD	2
3	EXISTING LOAD	1	20 A			540	1450			20 A	1	EXISTING LOAD	4
5	EXISTING LOAD	1	20 A					540	720	20 A	1	EXISTING LOAD	6
7	EXISTING LOAD	1	20 A	0	900					20 A	1	SPARE	8
9	SPARE	1	20 A			720	0			20 A	1	EXISTING LOAD	10
11	EXISTING LOAD	1	20 A					360	500	20 A	1	EXISTING LOAD	12
13	SPARE	1	20 A	0	0					--	--	PREPARED SPACE	14
15	EXISTING LOAD	1	20 A			0	0			20 A	1	SPARE	16
17	EXISTING LOAD	1	20 A					5200	0	20 A	1	SPARE	18
19	SPARE	1	20 A	5200	0					30 A	2	⬡1 EXISTING AC-2	20
21	⬡1 EXISTING AC-1	2	30 A			0	0						22
23								0	0	20 A	1	SPARE	24
25	PREPARED SPACE	--	--	0	0					20 A	1	SPARE	26
27	PREPARED SPACE	--	--			0	0			20 A	1	SPARE	28
29	PREPARED SPACE	--	--					0	0	20 A	1	SPARE	30
31	SPARE	1	20 A	0	0					20 A	1	SPARE	32
33	SPARE	1	20 A			0	0			20 A	1	SPARE	34
35	SPARE	1	20 A					0	0	20 A	1	SPARE	36
37	SPARE	1	20 A	0	0					20 A	1	SPARE	38
39	SPARE	1	20 A			0	0			20 A	1	SPARE	40
41	SPARE	1	20 A					0	0	20 A	1	SPARE	42
	PHASE TOTALS			7620 VA		2710 VA		7320 VA					
	PANEL UNBALANCE			54 %									

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS	
				TOTAL CONNECTED LOAD:	17650 VA
				TOTAL CONNECTED AMPS:	Not Computed
				NON COINCIDENT LOAD:	0 VA
				NON COINCIDENT AMPS:	0 A
				TOTAL DEMAND LOAD:	17650 VA
				TOTAL DEMAND LOAD AMPS:	0 A

NOTES:

0 4' 8' 16'
1/8"=1'-0"

NORTH

ISSUE FOR BID

Freese and Nichols, Inc.
Texas Registered Engineering Firm F- 2144
STATE OF TEXAS
ROBERT E. HARRISON
112914
LICENSED PROFESSIONAL ENGINEER
02/01/2021
FREESE AND NICHOLS
10431 Morado Circle Building 5
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Austin, TX 78759
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Web - www.freese.com

CITY OF AUSTIN
DAVIS WATER TREATMENT PLANT
ELECTRICAL
MAINTENANCE BUILDING
DEMOLITION PLANS

F&N JOB NO. AU120400
DATE 2/1/2021
DESIGNED MCD
DRAWN RLP
REVISED -
CHECKED REH
FILE NAME EL-AU120400-R19
NO. ISSUE DATE BY
VERIFY SCALE 0 1
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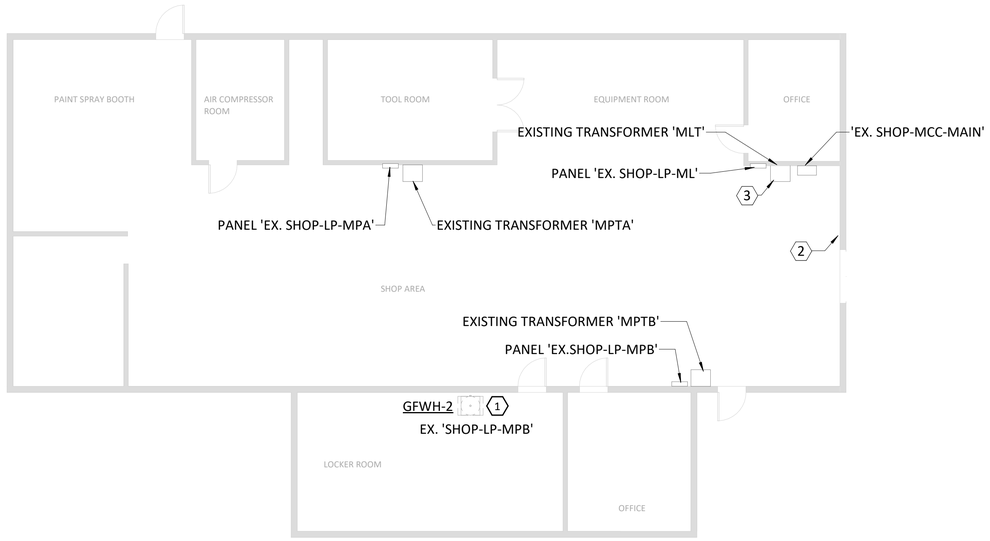
SHEET E-3
SEQ.

Plot Date: 2/1/2021 1:02:52 PM



1 DEMOLITION PLAN - FIRST FLOOR
1/8" = 1'-0"

GENERAL NOTES:

1. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING ALL ABANDONED CONDUIT. FIELD VERIFY ALL REQUIREMENTS.
2. REMOVE ALL ELECTRICAL CONDUITS, WIRES, AND ASSOCIATED FASTENERS, SUPPORTS, AND BEAM CLAMPS WHERE POSSIBLE. BACKBOXES AND CONDUIT IN MASONRY WALLS MAY BE ABANDONED IN PLACE. CUT CONDUIT FLUSH WITH WALL, REMOVE EXPOSED CONDUIT COMPLETELY. CONDUIT ABOVE CEILING SHALL BE REMOVED. PROVIDE APPROPRIATE SIZE BLANK COVERPLATE FOR UNUSED BACKBOXES.
3. ALL VOIDS LEFT FROM CONDUIT AND/OR WIRING REMOVAL IN BUILDING EXTERIOR WALLS SHALL BE SEALED WATERTIGHT. ALL VOIDS LEFT FROM CONDUIT AND/OR WIRING REMOVAL IN INTERIOR WALLS SHALL BE PATCHED AND/OR FIREPROOFED AS REQUIRED TO MAINTAIN THE INTEGRITY OF THE PARTITION AND PAINTED TO MATCH EXISTING FINISHES.
4. THE OWNER SHALL BE GIVEN THE FIRST RIGHT OF REFUSAL FOR ALL EQUIPMENT BEING DEMOLISHED. THE CONTRACTOR SHALL STORE ALL EQUIPMENT THAT THE OWNER ELECTS TO KEEP AT THE LOCATION ON SITE TO BE DESIGNATED BY THE OWNER. ALL OTHER EQUIPMENT SHALL BE DEMOLISHED AND PROPERLY DISPOSED OF BY THE CONTRACTOR.
5. CONTRACTOR SHALL IDENTIFY ALL CONDUITS, WIRING AND EQUIPMENT TO REMAIN TO PREVENT DAMAGE.
6. LABEL SCHEDULE AS "SPARE" FOR ALL CIRCUITS THAT BEEN MADE AVAILABLE DUE TO DEMOLITION OF SOURCE. LEAVE THE CIRCUIT BREAKER IN THE "OFF" POSITION.
7. DEMOLISH ONLY EQUIPMENT SHOWN ON DRAWINGS OR DIRECTED IN NOTES. COORDINATE ALL DEMOLITION EFFORTS WITH OWNER AND OTHER TRADES BEFORE BEGINNING WORK.

NOTES BY SYMBOL "⬡"

1. DISCONNECT AND REMOVE ELECTRICAL CONNECTIONS TO EXISTING GFWH-2. REMOVE WIRE AND CONDUIT BACK TO SOURCE. REFER TO SHEET E-3 FOR EXISTING PANEL SCHEDULE EX. SHOP-LP-MPB FOR REFERENCE ONLY. VERIFY EXISTING CONDITIONS AND CIRCUITS PRIOR TO START OF DEMOLITION WORK.
2. REMOVE AND RELOCATE EXISTING TOOL RACK. COORDINATE WITH OWNER FOR NEW LOCATION PRIOR TO START OF DEMOLITION WORK.
3. EXISTING PANELS AND TRANSFORMERS SHALL REMAIN. (TYPICAL)

0 4' 8' 16'
1/8"=1'-0"

ISSUE FOR BID

Freese and Nichols, Inc.
Texas Registered Engineering Firm F- 2144

STATE OF TEXAS
ROBERT E. HARRISON
92914
LICENSED PROFESSIONAL ENGINEER
02/01/2021

FREESE NICHOLS
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CITY OF AUSTIN
DAVIS WATER TREATMENT PLANT

ELECTRICAL
MAINTENANCE BUILDING
DEMOLITION PLAN

F&N JOB NO.	AU120400
DATE	2/1/2021
DESIGNED	MCD
DRAWN	RLP
REVISED	-
CHECKED	REH

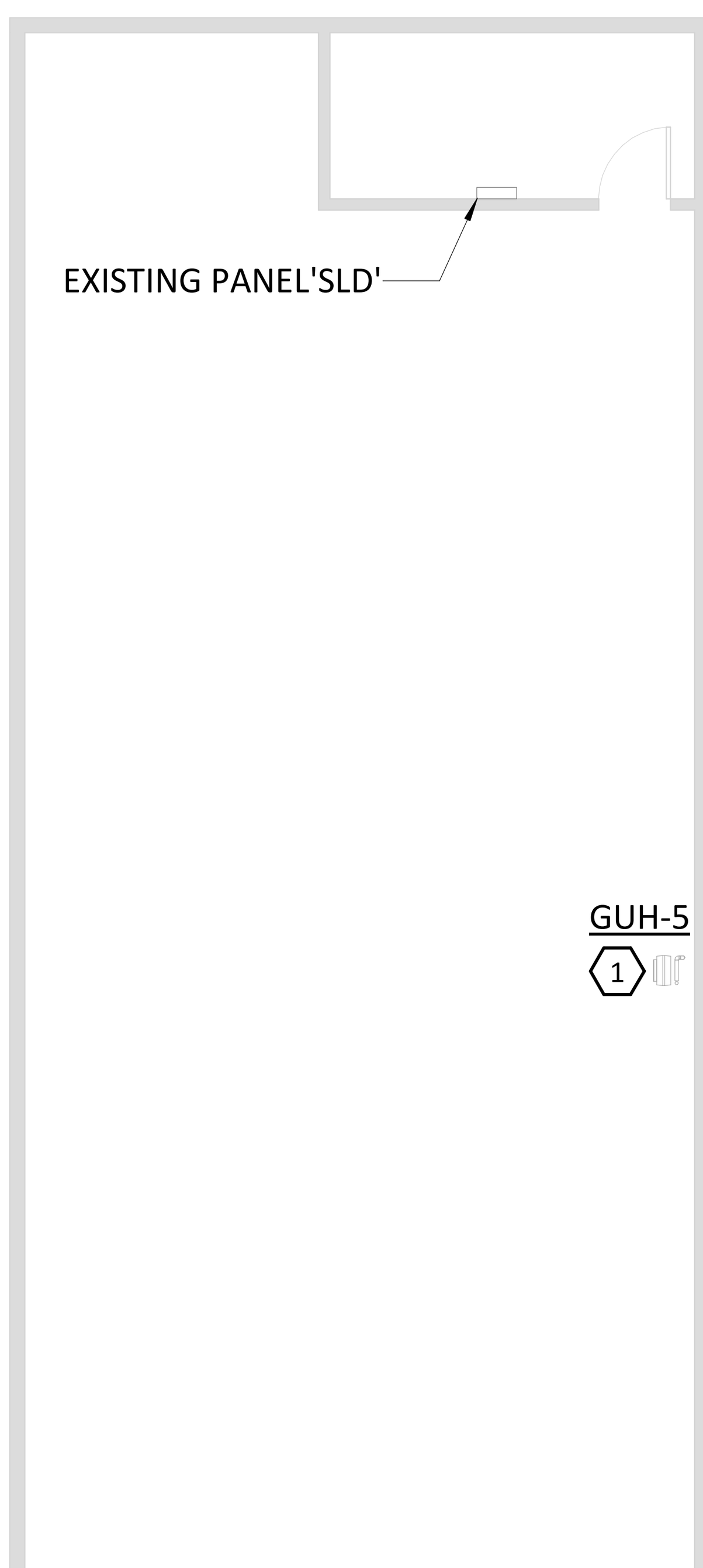
NO.	ISSUE	BY	DATE

FILE NAME EL-AU120400-R19

VERIFY SCALE Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.
0 1

SHEET E-4
SEQ.

Plot Date: 2/1/2021 1:02:52 PM



1 DEMOLITION PLAN - SECOND FLOOR
1/8" = 1'-0"

PANEL NO. SLD

SERVICE VOLTAGE 208Y/120V
A.I.C.
MCB RATING 200 A
BUS RATING
NEUTRAL BUS 100%
LOCATION
FEED FROM
SECTIONS 1

CKT NO.	DESCRIPTION	POLE	TRIP	A		B		C		TRIP	POLE	DESCRIPTION	CKT NO.
1	EXISTING LOAD	1	20 A	0	0					20 A	1	EXISTING LOAD	2
3	EXISTING LOAD	1	20 A			0	0			20 A	1	EXISTING LOAD	4
5	EXISTING LOAD	1	20 A					0	0	20 A	1	EXISTING LOAD	6
7	EXISTING LOAD	1	20 A	0	0					20 A	1	EXISTING LOAD	8
9	EXISTING LOAD	1	20 A			0	0			20 A	1	EXISTING LOAD	10
11	EXISTING LOAD	1	20 A					0	0	20 A	1	EXISTING LOAD	12
13	EXISTING LOAD	1	20 A	0	0					20 A	1	EXISTING LOAD	14
15	EXISTING LOAD	1	20 A			0	0			20 A	1	EXISTING LOAD	16
17	EXISTING LOAD	1	20 A					0	0	20 A	1	EXISTING LOAD	18
19	EXISTING LOAD	1	20 A	0	0					20 A	1	EXISTING LOAD	20
21	EXISTING LOAD	1	20 A			0	0			20 A	1	EXISTING LOAD	22
23	EXISTING LOAD	1	20 A					0	0	20 A	1	EXISTING LOAD	24
25	EXISTING LOAD	1	20 A	0	0					20 A	1	EXISTING LOAD	26
27	EXISTING LOAD	1	20 A			0	0			20 A	1	EXISTING LOAD	28
29	EXISTING LOAD	1	20 A					0	0	20 A	1	EXISTING LOAD	30
31	EXISTING LOAD	1	20 A	0	0					20 A	1	EXISTING WH LOAD	32 (1)
33	EXISTING LOAD	1	20 A			0	0			20 A	1	EXISTING LOAD	34
35	EXISTING LOAD	1	20 A					0	0	20 A	1	EXISTING LOAD	36
37	EXISTING LOAD	1	20 A	0	0					20 A	1	EXISTING LOAD	38
39	EXISTING LOAD	1	20 A			0	0			20 A	1	EXISTING LOAD	40
41	EXISTING LOAD	1	20 A					0	0	20 A	1	EXISTING LOAD	42
	PHASE TOTALS			0 VA		0 VA		0 VA					
				0 A		0 A		0 A					
	PANEL UNBALANCE					%							

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS	
				TOTAL CONNECTED LOAD:	0 VA
				TOTAL CONNECTED AMPS:	0 A
				NON COINCIDENT LOAD:	0 VA
				NON COINCIDENT AMPS:	0 A
				TOTAL DEMAND LOAD:	0 VA
				TOTAL DEMAND LOAD AMPS:	0 A

NOTES:

GENERAL NOTES:

1. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING ALL ABANDONED CONDUIT. FIELD VERIFY ALL REQUIREMENTS.
2. REMOVE ALL ELECTRICAL CONDUITS, WIRES, AND ASSOCIATED FASTENERS, SUPPORTS, AND BEAM CLAMPS WHERE POSSIBLE. BACKBOXES AND CONDUIT IN MASONRY WALLS MAY BE ABANDONED IN PLACE. CUT CONDUIT FLUSH WITH WALL, REMOVE EXPOSED CONDUIT COMPLETELY. CONDUIT ABOVE CEILING SHALL BE REMOVED. PROVIDE APPROPRIATE SIZE BLANK COVERPLATE FOR UNUSED BACKBOXES.
3. ALL VOIDS LEFT FROM CONDUIT AND/OR WIRING REMOVAL IN BUILDING EXTERIOR WALLS SHALL BE SEALED WATERTIGHT. ALL VOIDS LEFT FROM CONDUIT AND/OR WIRING REMOVAL IN INTERIOR WALLS SHALL BE PATCHED AND/OR FIREPROOFED AS REQUIRED TO MAINTAIN THE INTEGRITY OF THE PARTITION AND PAINTED TO MATCH EXISTING FINISHES.
4. THE OWNER SHALL BE GIVEN THE FIRST RIGHT OF REFUSAL FOR ALL EQUIPMENT BEING DEMOLISHED. THE CONTRACTOR SHALL STORE ALL EQUIPMENT THAT THE OWNER ELECTS TO KEEP AT THE LOCATION ON SITE TO BE DESIGNATED BY THE OWNER. ALL OTHER EQUIPMENT SHALL BE DEMOLISHED AND PROPERLY DISPOSED OF BY THE CONTRACTOR.
5. CONTRACTOR SHALL IDENTIFY ALL CONDUITS, WIRING AND EQUIPMENT TO REMAIN TO PREVENT DAMAGE.
6. LABEL SCHEDULE AS "SPARE" FOR ALL CIRCUITS THAT BEEN MADE AVAILABLE DUE TO DEMOLITION OF SOURCE. LEAVE THE CIRCUIT BREAKER IN THE "OFF" POSITION.
7. DEMOLISH ONLY EQUIPMENT SHOWN ON DRAWINGS OR DIRECTED IN NOTES. COORDINATE ALL DEMOLITION EFFORTS WITH OWNER AND OTHER TRADES BEFORE BEGINNING WORK.

NOTES BY SYMBOL "⬡"

1. DISCONNECT AND REMOVE ELECTRICAL DEVICES, WIRE AND CONDUIT BACK TO SOURCE. FIELD VERIFY EXISTING CONDITIONS PRIOR TO START OF DEMOLITION WORK.

0 4' 8' 16'
1/8"=1'-0"

ISSUE FOR BID

Freese and Nichols, Inc.
Texas Registered Engineering Firm F- 2144
STATE OF TEXAS ROBERT E. HARRISON 112914 LICENSED PROFESSIONAL ENGINEER
02/01/2021
FREESE AND NICHOLS
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CITY OF AUSTIN
DAVIS WATER TREATMENT PLANT

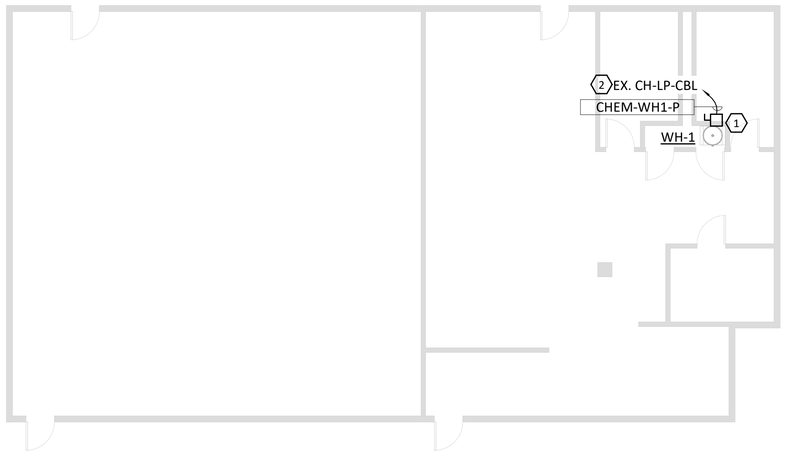
ELECTRICAL
CENTRIFUGE BUILDING
DEMOLITION PLAN

F&N JOB NO. AU120400
DATE 2/1/2021
DESIGNED MCD
DRAWN RLP
REVISED -
CHECKED REH
FILE NAME EL-AU120400-R19

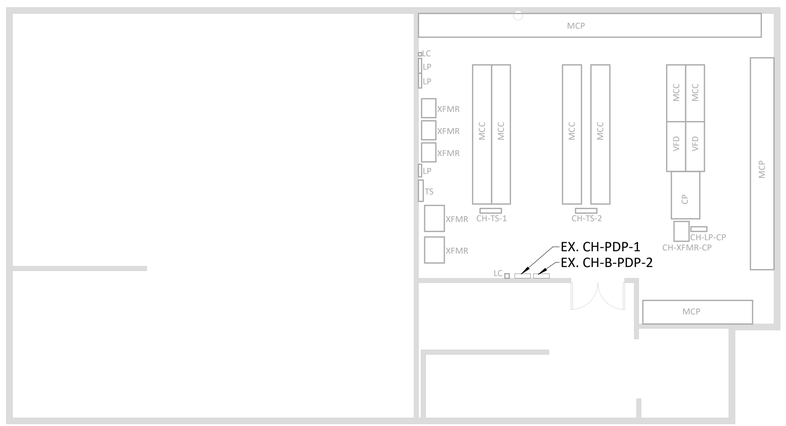
NO.	ISSUE	BY	DATE

VERIFY SCALE 0 1
Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.

SHEET E-5
SEQ.



1 POWER PLAN - BASEMENT
1/8" = 1'-0"



2 POWER PLAN - THIRD FLOOR
1/8" = 1'-0"

GENERAL NOTES:

1. CONTRACTOR SHALL PROVIDE ALL CONDUITS, CABLE, JUNCTION BOXES, AND ASSOCIATED HARDWARE FOR A COMPLETE AND OPERATIONAL SYSTEM.
2. PROVIDE CONCEALED INSTALLATION OF CONDUIT IN SLAB AND WALL OR ABOVE CEILING, WHERE POSSIBLE.
3. PROVIDE IDENTIFICATION LABELS FOR ANY REMOTE SWITCHES, DISCONNECTS, JUNCTION BOXES.
4. ALL POWER CIRCUITRY SHALL BE MINIMUM 2 #12, #12G., 3/4"C. UNLESS NOTED OTHERWISE. FOR POWER CIRCUITS GREATER THAN 100' BUT LESS THAN 250' PROVIDE 2 #10, #10G., 3/4"C., FOR POWER CIRCUITS GREATER THAN 250' PROVIDE 2 #8, #8G., 3/4"C.
5. ALL EQUIPMENT ENCLOSURES MOUNTED ON THE EXTERIOR SHALL BE NEMA 4X 316SS.
6. COORDINATE FUSE SIZES FOR DISCONNECT SWITCHES (IF REQUIRED) WITH THE EQUIPMENT MANUFACTURER.
7. PROVIDE UPDATED LAMINATED PANEL SCHEDULES FOR MODIFIED PANELBOARDS.
8. FOR NEW THERMOSTATS, PROVIDE SINGLE GANG BACK BOX MOUNTED AT 4'-0", JUNCTION BOX ABOVE ACCESSIBLE CEILING WITH A 3/4" CONDUIT WITH PULL STRING BETWEEN FOR THERMOSTAT AND ASSOCIATED WIRING. JUNCTION BOX TO BE MOUNTED TO UNDERSIDE OF DECK.
9. REFER TO SHEET E-13 FOR WIRE AND CONDUIT SCHEDULE.
10. COORDINATE ALL INSTALLATION EFFORTS WITH OWNER AND OTHER TRADES BEFORE BEGINNING WORK.

NOTES BY SYMBOL "⬡"

1. PROVIDE NEW 60A/2P/NF DISCONNECT SWITCH ON WH-1. REFER TO MECHANICAL AND PLUMBING SHEETS FOR MORE INFORMATION.
2. PROVIDE A NEW 40A/2P CIRCUIT BREAKER IN EXISTING PANEL 'CH-LP-CBL' IN PLACE OF SPARES MADE AVAILABLE FROM DEMOLITION SHOWN ON SHEET E-1. FIELD VERIFY EXISTING CONDITIONS PRIOR TO FINAL ROUGH-IN.

0 4' 8' 16'
1/8"=1'-0"

ISSUE FOR BID

Freese and Nichols, Inc.
Texas Registered Engineering Firm F- 2144

STATE OF TEXAS
ROBERT E. HARRISON
92914
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CITY OF AUSTIN
DAVIS WATER TREATMENT PLANT

ELECTRICAL
CHEMICAL BUILDING
POWER PLANS

F&N JOB NO. AU120400
DATE 2/1/2021
DESIGNED MCD
DRAWN RLP
REVISED -
CHECKED REH

NO. | ISSUE | BY | DATE

FILE NAME EL-AU120400-R19

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SHEET E-6
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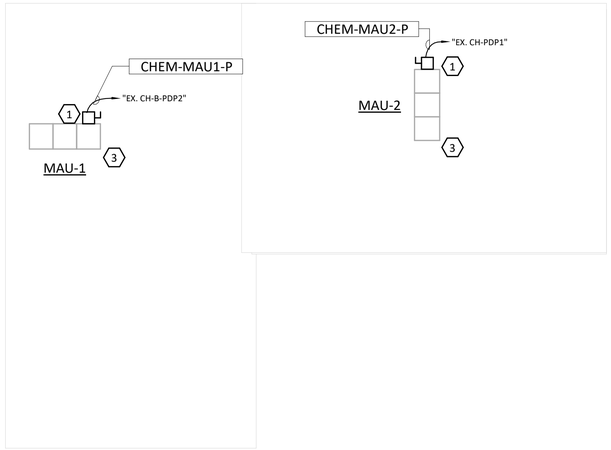
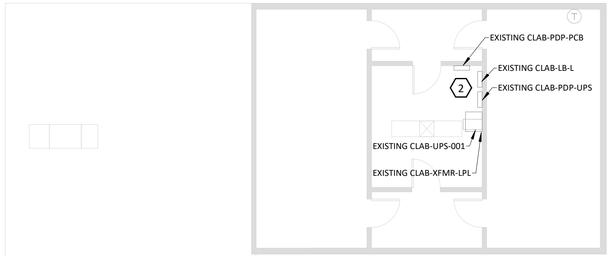


1 POWER PLAN - ROOF
1/8" = 1'-0"



2 POWER PLAN - SECOND FLOOR
1/8" = 1'-0"

GENERAL NOTES:

1. CONTRACTOR SHALL PROVIDE ALL CONDUITS, CABLE, JUNCTION BOXES, AND ASSOCIATED HARDWARE FOR A COMPLETE AND OPERATIONAL SYSTEM.
2. PROVIDE IDENTIFICATION LABELS FOR ANY REMOTE SWITCHES, DISCONNECTS, JUNCTION BOXES.
3. ALL POWER CIRCUITRY SHALL BE MINIMUM 2 #12, #12G., 3/4"C. UNLESS NOTED OTHERWISE. FOR POWER CIRCUITS GREATER THAN 100' BUT LESS THAN 250' PROVIDE 2 #10, #10G., 3/4"C., FOR POWER CIRCUITS GREATER THAN 250' PROVIDE 2 #8, #8G., 3/4"C.
4. ALL EQUIPMENT ENCLOSURES MOUNTED ON THE EXTERIOR SHALL BE NEMA 4X 316SS.
5. COORDINATE FUSE SIZES FOR DISCONNECT SWITCHES (IF REQUIRED) WITH THE EQUIPMENT MANUFACTURER.
6. PROVIDE UPDATED LAMINATED PANEL SCHEDULES FOR MODIFIED PANELBOARDS.
7. PROVIDE NEW AIR TERMINAL UL MASTER LABEL LIGHTNING PROTECTION RATED TO NEW ROOF MOUNTED UNIT AND TIE INTO EXISTING LIGHTNING PROTECTION SYSTEM.
8. REFER TO SHEET E-13 FOR WIRE AND CONDUIT SCHEDULE.
9. COORDINATE ALL INSTALLATION EFFORTS WITH OWNER AND OTHER TRADES BEFORE BEGINNING WORK.

NOTES BY SYMBOL "⬡"

1. DISCONNECT SWITCH PROVIDED WITH MECHANICAL EQUIPMENT AND INSTALLED BY ELECTRICAL CONTRACTOR. COORDINATE WITH MECHANICAL SCHEDULE FOR ADDITIONAL REQUIREMENTS. REFER TO SHEET E-11 FOR ONE-LINE DIAGRAM.
2. EXISTING PANELS TO REMAIN.
3. REFER TO DIV 16 SPEC 16670 FOR LIGHTNING PROTECTION REQUIREMENTS.

0 4' 8' 16'
1/8"=1'-0"

ISSUE FOR BID

Freese and Nichols, Inc.
Texas Registered Engineering Firm F- 2144

STATE OF TEXAS
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103234
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CITY OF AUSTIN
DAVIS WATER TREATMENT PLANT

ELECTRICAL
CHLORINE AND AMMONIA BUILDING
POWER PLANS

F&N JOB NO.	AU120400
DATE	2/1/2021
DESIGNED	MCD
DRAWN	RLP
REVISED	-
CHECKED	REH

NO.	ISSUE	BY	DATE

FILE NAME
EL-AU120400-R19

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SHEET
E-7

SEQ.

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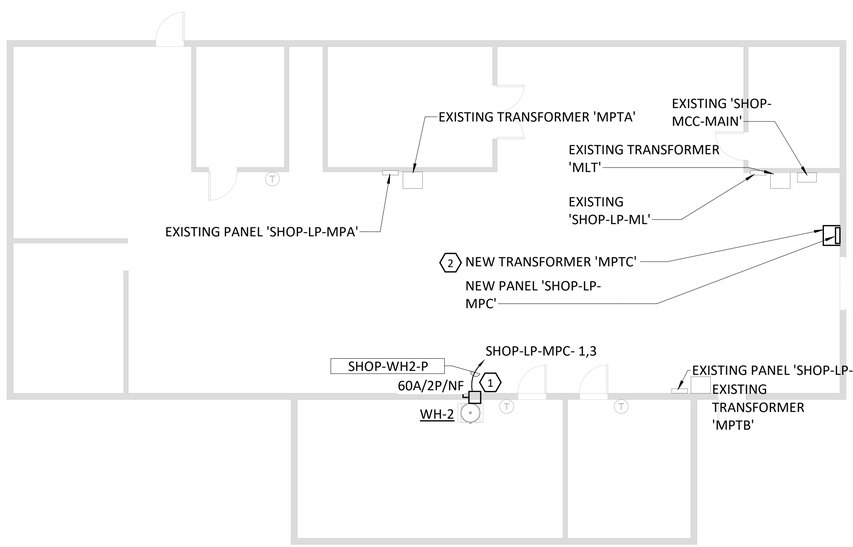
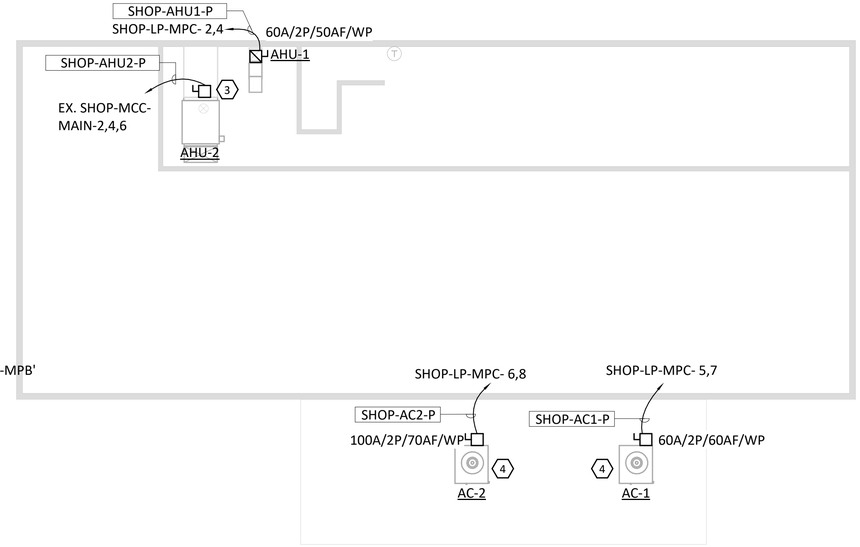
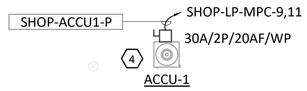


3 POWER PLAN - FIRST FLOOR
1/8" = 1'-0"



1 POWER PLAN -MEZZANINE
1/8" = 1'-0"



2 POWER PLAN - ROOF
1/8" = 1'-0"

PANEL NO. SHOP-LP-MPC

SERVICE VOLTAGE 208Y/120V
A.I.C. 22,000
MCB RATING 150 A
BUS RATING
NEUTRAL BUS 100%
LOCATION
FEED FROM TRANSFORMER 'MPTC'
SECTIONS 1

CKT NO.	DESCRIPTION	POLE	TRIP	A		B		C		TRIP	POLE	DESCRIPTION	CKT NO.
1	WH-2	2	40 A	3000	3869					50 A	2	AHU-1	2
3						3000	3869						4
5	AC-1	2	60 A					4992	5325	70 A	2	AC-2	6
7				4992	5325								8
9	ACCU-1	2	30 A			1498	0			20 A	1	SPARE	10
11								1498	0	20 A	1	SPARE	12
13	SPARE	1	20 A	0	0					20 A	1	SPARE	14
15	SPARE	1	20 A			0	0			20 A	1	SPARE	16
17	SPARE	1	20 A					0	0	20 A	1	SPARE	18
19	SPARE	1	20 A	0	0					20 A	1	SPARE	20
21	SPARE	1	20 A			0	0			20 A	1	SPARE	22
23	PREPARED SPACE	--	--					0	0	--	--	PREPARED SPACE	24
25	PREPARED SPACE	--	--	0	0					--	--	PREPARED SPACE	26
27	PREPARED SPACE	--	--			0	0			--	--	PREPARED SPACE	28
29	PREPARED SPACE	--	--					0	0	--	--	PREPARED SPACE	30
31	PREPARED SPACE	--	--	0	0					--	--	PREPARED SPACE	32
33	PREPARED SPACE	--	--			0	0			--	--	PREPARED SPACE	34
35	PREPARED SPACE	--	--					0	0	--	--	PREPARED SPACE	36
37	PREPARED SPACE	--	--	0	0					--	--	PREPARED SPACE	38
39	PREPARED SPACE	--	--			0	0			--	--	PREPARED SPACE	40
41	PREPARED SPACE	--	--					0	0	--	--	PREPARED SPACE	42
	PHASE TOTALS			17186 VA		8367 VA		11815 VA					
				148 A		70 A		103 A					
	PANEL UNBALANCE			38 %									

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND
Other	7738 VA	100.00%	7738 VA
Cooling	23629 VA	100.00%	23629 VA
Power	6000 VA	100.00%	6000 VA

PANEL TOTALS	
TOTAL CONNECTED LOAD:	37367 VA
TOTAL CONNECTED AMPS:	104 A
NON COINCIDENT LOAD:	0 VA
NON COINCIDENT AMPS:	0 A
TOTAL DEMAND LOAD:	37367 VA
TOTAL DEMAND LOAD AMPS:	104 A

NOTES:

GENERAL NOTES:

1. CONTRACTOR SHALL PROVIDE ALL CONDUITS, CABLE, JUNCTION BOXES, AND ASSOCIATED HARDWARE FOR A COMPLETE AND OPERATIONAL SYSTEM.
2. PROVIDE CONCEALED INSTALLATION OF CONDUIT IN SLAB AND WALL OR ABOVE CEILING, WHERE POSSIBLE.
3. PROVIDE IDENTIFICATION LABELS FOR ANY REMOTE SWITCHES, DISCONNECTS, JUNCTION BOXES.
4. ALL POWER CIRCUITRY SHALL BE MINIMUM 2 #12, #12G., 3/4"C. UNLESS NOTED OTHERWISE. FOR POWER CIRCUITS GREATER THAN 100' BUT LESS THAN 250' PROVIDE 2 #10, #10G., 3/4"C., FOR POWER CIRCUITS GREATER THAN 250' PROVIDE 2 #8, #8G., 3/4"C.
5. ALL EQUIPMENT ENCLOSURES MOUNTED ON THE EXTERIOR SHALL BE NEMA 4X 316SS.
6. COORDINATE FUSE SIZES FOR DISCONNECT SWITCHES (IF REQUIRED) WITH THE EQUIPMENT MANUFACTURER.
7. PROVIDE UPDATED LAMINATED PANEL SCHEDULES FOR MODIFIED PANELBOARDS.
8. PROVIDE NEW AIR TERMINAL UL MASTER LABEL LIGHTNING PROTECTION RATED TO NEW ROOF MOUNTED UNIT AND TIE INTO EXISTING LIGHTNING PROTECTION SYSTEM.
9. COORDINATE ALL INSTALLATION EFFORTS WITH OWNER AND OTHER TRADES BEFORE BEGINNING WORK.

NOTES BY SYMBOL "⬡"

1. PROVIDE NEW 60A/2P/NF DISCONNECT SWITICH ON WH-2.
2. MOUNT NEW TRANSFORMER 'MPTC' ABOVE NEW PANEL 'SHOP-LP-MPC'. ANCHOR THE TRANSFORMER BRACKET PROVIDED BY TRANSFORMER MANUFACTURER IN THE BOND BEAM. FIELD VERIFY THE LOCATION OF THE BOND BEAM. USE MINIMUM (4) 3/8" DIAMETER GALVANIZED THREADED ROD (ASTM F1554 GRADE 36) ANCHOR MINUMUM EMBED OF 5" WITH HIT-HY 270 OR APPROVED EQUAL. FIELD VERIFY EXISTING CONDITIONS PRIOR TO FINAL ROUGH-IN. REFER TO SHEET E-13 FOR ONE-LINE DIAGRAM.REFER TO DETAIL 5/E-9.
3. DISCONNECT SWITCH PROVIDED WITH MECHANICAL EQUIPMENT AND INSTALLED BY ELECTRICAL CONTRACTOR. COORDINATE WITH MECHANICAL SCHEDULE FOR ADDITIONAL INFORMATION.
4. REFER TO DIV 16 SPEC 16670 FOR LIGHTNING PROTECTION REQUIREMENTS.

0 4' 8' 16'
1/8"=1'-0"

ISSUE FOR BID

Freese and Nichols, Inc.
Texas Registered Engineering Firm F- 2144
STATE OF TEXAS ROBERT E. HARRISON 112934 LICENSED PROFESSIONAL ENGINEER 02/01/2021
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CITY OF AUSTIN
DAVIS WATER TREATMENT PLANT
ELECTRICAL
MAINTENANCE BUILDING POWER PLANS

F&N JOB NO. AU120400
DATE 2/1/2021
DESIGNED MCD
DRAWN RLP
REVISED -
CHECKED REH
FILE NAME EL-AU120400-R19

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SHEET E-8
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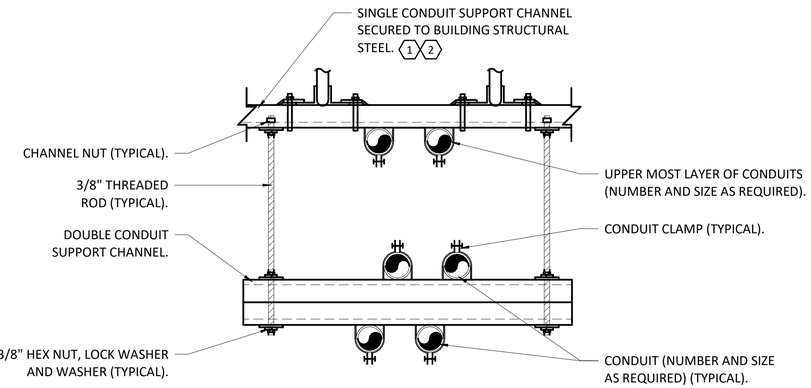
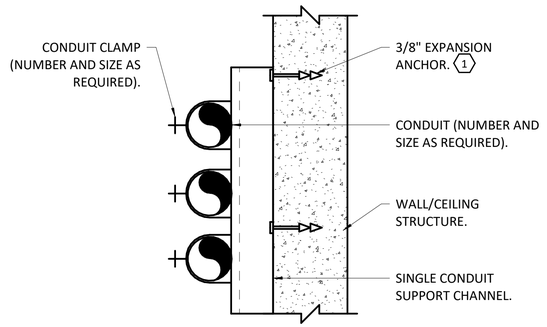


1 CEILING JOIST MOUNTED CONDUIT SUPPORT
NOT TO SCALE



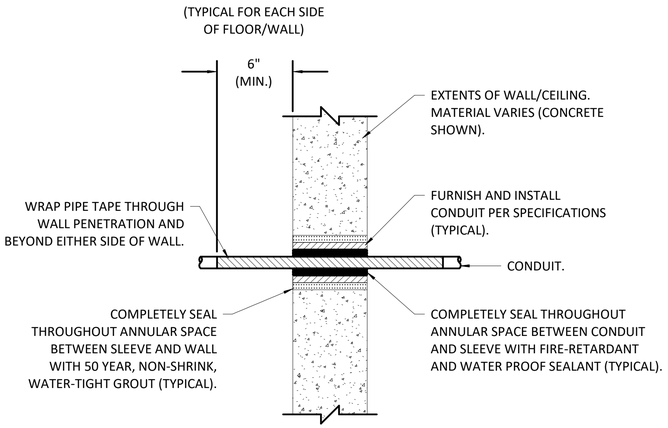
2 WALL/CEILING CONDUIT SUPPORT
NOT TO SCALE

GENERAL NOTES:

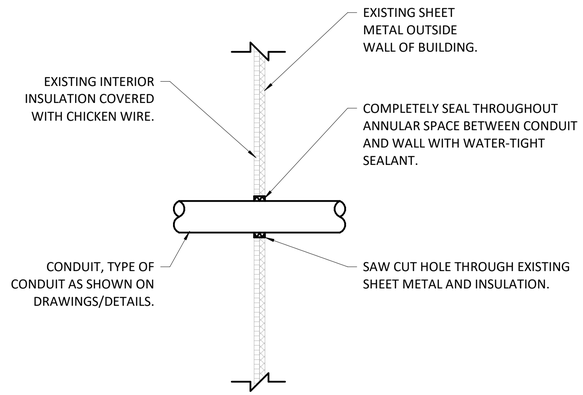
1. CONTRACTOR TO REVIEW SPEC. 1910 - SUMMARY OF WORK MATERIALS WITH LEAD PAINT.
2. REFINISH WALL AT ANY PENTRATIONS TO MATCH EXISTING FINISHES.

NOTES BY SYMBOL "⬡"

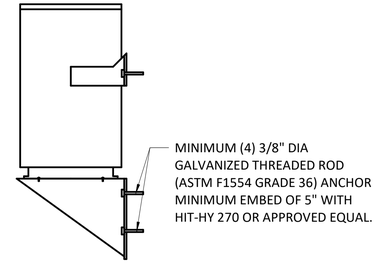
1. THE STRUCTURE TYPE TO WHICH SUPPORT SYSTEMS SHALL BE MOUNTED MAY VERY. THE EQUIPMENT ANCHOR TYPE SHALL CORRESPOND TO THE TYPE OF STRUCTURE TO WHICH SUPPORT SYSTEMS ARE ATTACHED. THE DRAWING REFLECTS A SPECIFIC STRUCTURE TYPE WITH CORRESPONDING ANCHOR TYPE AND IS TYPICAL FOR STRUCTURE TYPE SHOWN. TO ATTACH SUPPORT SYSTEMS TO PRE-CAST/CAST-IN-PLACE CONCRETE WALL/FLOOR SLAB STRUCTURE TYPES, FURNISH AND INSTALL BOLT WITH EXPANSION ANCHOR. TO ATTACH EQUIPMENT/SUPPORT SYSTEMS TO CONCRETE MASONRY UNIT (CMU)/BRICK WALL STRUCTURE TYPE. FURNISH AND INSTALL BOLT WITH EXPANSION ANCHOR. TO ATTACH SUPPORT SYSTEMS TO STEEL STRUCTURE TYPE. FURNISH AND INSTALL BOLTING ASSEMBLY. COORDINATE ATTACHMENT REQUIREMENTS WITH STRUCTURAL/ARCHITECTURAL/TANK MANUFACTURER AS APPLICABLE.
2. SECURE/ATTACH CONDUIT SUPPORT CHANNEL TO BOTTOM CHORD OF CEILING JOIST.



3 CONDUIT PENETRATION
NOT TO SCALE



4 ELECTRICAL BUILDING CONDUIT PENETRATION
NOT TO SCALE



NOTE: BRACKET SHALL BE PROVIDED BY SAME MANUFACTURER AND LISTED SPECIFICALLY FOR THE TRANSFORMER BEING PROVIDED.

5 TRANSFORMER MOUNTING BRACKET
NOT TO SCALE

Freese and Nichols, Inc.
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CITY OF AUSTIN
DAVIS WATER TREATMENT PLANT
ELECTRICAL
DETAILS

F&N JOB NO.	AU120400
DATE	2/1/2021
DESIGNED	MCD
DRAWN	MCD
REVISED	-
CHECKED	REH

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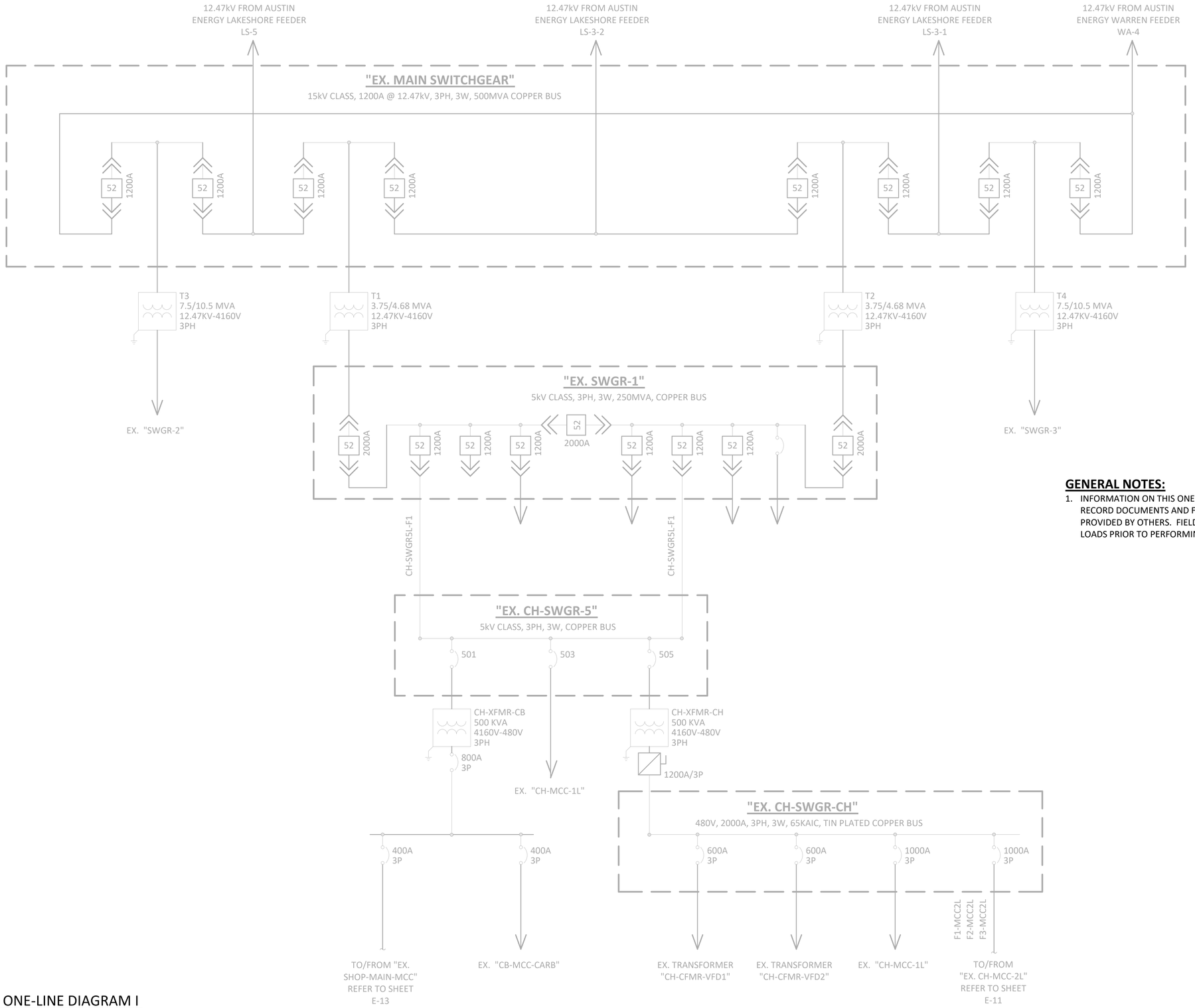

GENERAL NOTES:

1. INFORMATION ON THIS ONE-LINE WAS BASED ON RECORD DOCUMENTS AND FIELD SURVEY NOTES PROVIDED BY OTHERS. FIELD VERIFY ALL EXISTING LOADS PRIOR TO PERFORMING NEW WORK.

1 ONE-LINE DIAGRAM I
NOT TO SCALE

ISSUE FOR BID

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Freese and Nichols, Inc.
Texas Registered Engineering Firm F- 2144

STATE OF TEXAS
ROBERT E. HARRISON
112914
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CITY OF AUSTIN
DAVIS WATER TREATMENT PLANT

ELECTRICAL
CHLORINE AND AMMONIA BUILDING
ONE-LINE DIAGRAM I

F&N JOB NO.	AU120400
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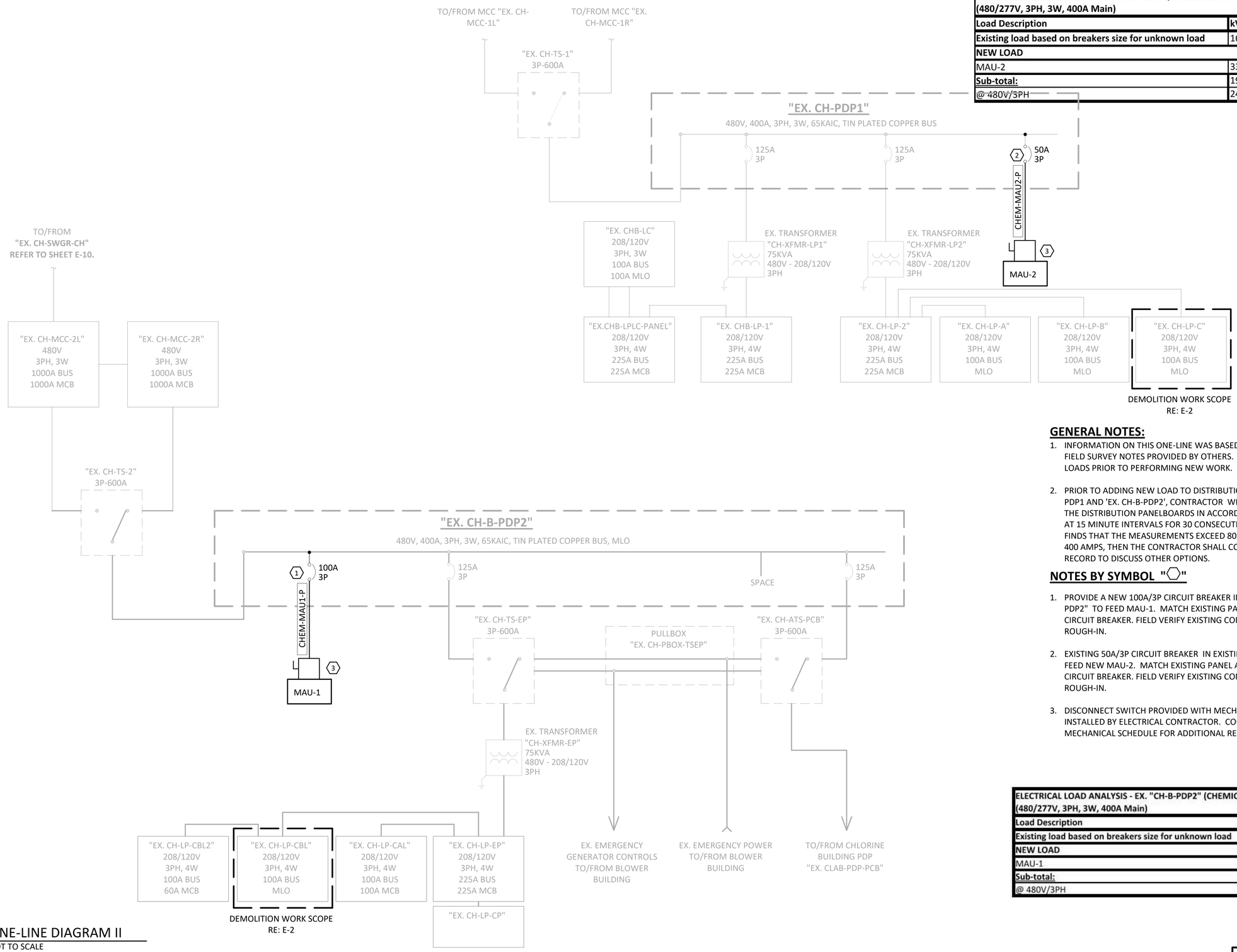
FILE NAME EL-AU120400-R19

SHEET E-10

SEQ.



1 ONE-LINE DIAGRAM II
NOT TO SCALE

ELECTRICAL LOAD ANALYSIS - EX. "CH-PDP1" (CHEMICAL BLDG.) (480/277V, 3PH, 3W, 400A Main)	
Load Description	**kVA**
Existing load based on breakers size for unknown load	166.2 Kva
NEW LOAD	
MAU-2	33.2 kVA
Sub-total:	199.0 kVA
@ 480V/3PH	240 Amps

GENERAL NOTES:

1. INFORMATION ON THIS ONE-LINE WAS BASED ON RECORD DOCUMENTS AND FIELD SURVEY NOTES PROVIDED BY OTHERS. FIELD VERIFY ALL EXISTING LOADS PRIOR TO PERFORMING NEW WORK.
2. PRIOR TO ADDING NEW LOAD TO DISTRIBUTION PANELBORARDS 'EX. CH-PDP1 AND 'EX. CH-B-PDP2', CONTRACTOR WILL BE REQUIRED TO MONITOR THE DISTRIBUTION PANELBOARDS IN ACCORDANCE WITH NEC 220.87 (METER AT 15 MINUTE INTERVALS FOR 30 CONSECUTIVE DAYS). IF CONTRACTOR FINDS THAT THE MEASUREMENTS EXCEED 80% OF THE PANEL AMPERAGE OF 400 AMPS, THEN THE CONTRACTOR SHALL CONTACT THE ENGINEER OF RECORD TO DISCUSS OTHER OPTIONS.

NOTES BY SYMBOL "⬡"

1. PROVIDE A NEW 100A/3P CIRCUIT BREAKER IN EXISTING PANEL "CH-B-PDP2" TO FEED MAU-1. MATCH EXISTING PANEL AIC RATING FOR NEW CIRCUIT BREAKER. FIELD VERIFY EXISTING CONDITIONS PRIOR TO FINAL ROUGH-IN.
2. EXISTING 50A/3P CIRCUIT BREAKER IN EXISTING PANEL "CH-PDP1" TO FEED NEW MAU-2. MATCH EXISTING PANEL AIC RATING FOR NEW CIRCUIT BREAKER. FIELD VERIFY EXISTING CONDITIONS PRIOR TO FINAL ROUGH-IN.
3. DISCONNECT SWITCH PROVIDED WITH MECHANICAL EQUIPMENT AND INSTALLED BY ELECTRICAL CONTRACTOR. COORDINATE WITH MECHANICAL SCHEDULE FOR ADDITIONAL REQUIREMENTS.

ELECTRICAL LOAD ANALYSIS - EX. "CH-B-PDP2" (CHEMICAL BLDG.) (480/277V, 3PH, 3W, 400A Main)	
Load Description	**kVA**
Existing load based on breakers size for unknown load	166.2 Kva
NEW LOAD	
MAU-1	41.8 kVA
Sub-total:	208.0 kVA
@ 480V/3PH	250 Amps

ISSUE FOR BID

Freese and Nichols, Inc.
Texas Registered Engineering Firm F- 2144
ROBERT E. HARRISON 112914 LICENSED PROFESSIONAL ENGINEER
02/01/2021
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10431 Morado Circle Building 5
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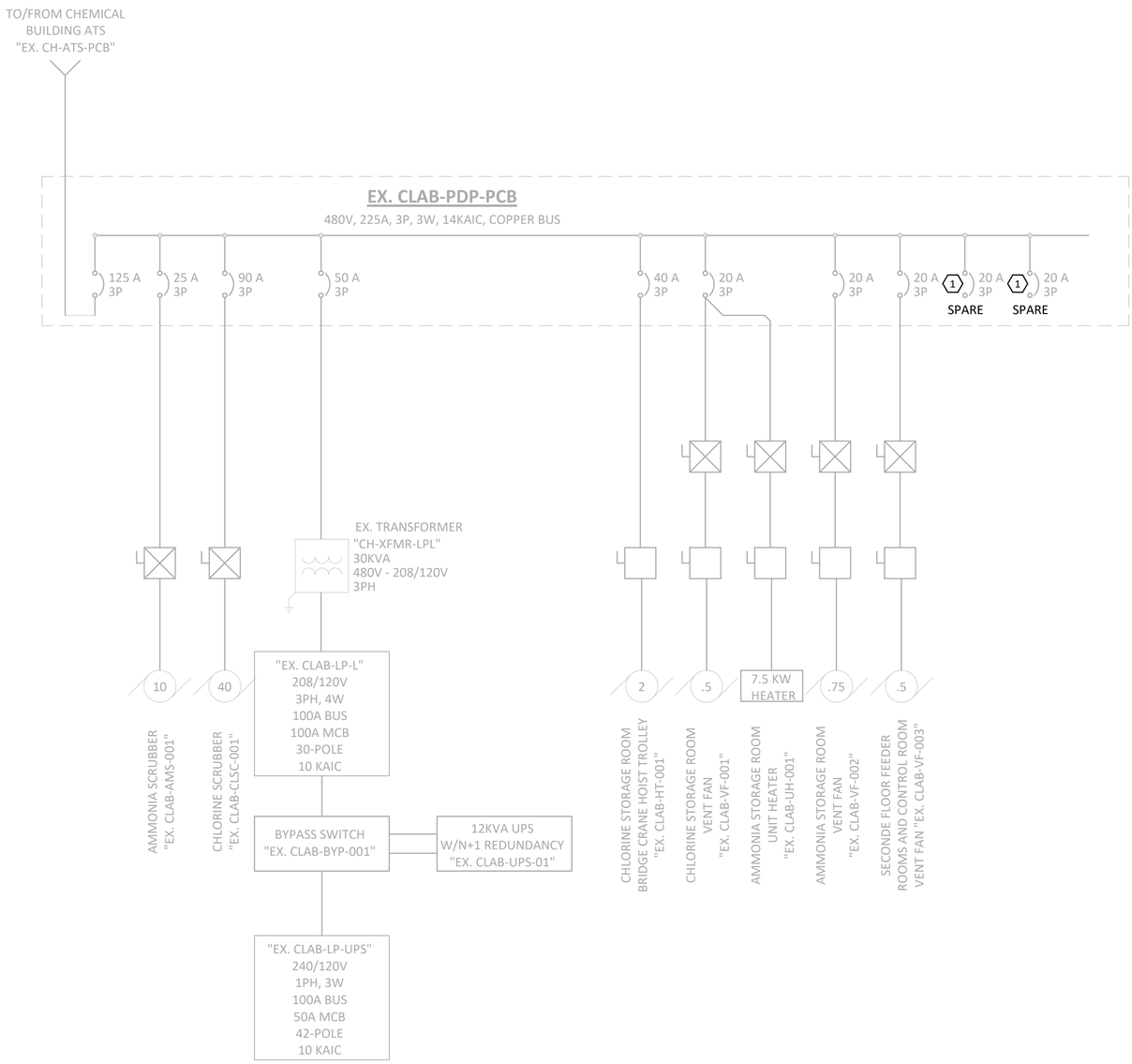
CITY OF AUSTIN
DAVIS WATER TREATMENT PLANT
ELECTRICAL
CHLORINE AND AMMONIA BUILDING
ONE LINE DIAGRAM II

F&N JOB NO. AU120400
DATE 2/1/2021
DESIGNED MCD
DRAWN MCD
CHECKED REH
REVISED -
DATE
BY
ISSUE
NO.
FILE NAME EL-AU120400-R19

Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.
VERIFY SCALE 0 1

SHEET E-11
SEQ.

Plot Date: 2/1/2021 1:02:56 PM



1 ONE-LINE DIAGRAM 3
NOT TO SCALE

GENERAL NOTES:

1. INFORMATION ON THIS ONE-LINE WAS BASED ON RECORD DOCUMENTS AND FIELD SURVEY NOTES PROVIDED BY OTHERS. FIELD VERIFY ALL EXISTING LOADS PRIOR TO PERFORMING NEW WORK.

NOTES BY SYMBOL "⬡"

1. LABEL THE CIRCUIT BREAKER AS A SPARE BREAKER ONCE THE LOAD HAVE BEEN DEMOLISHED. REFER TO SHEET E-2 FOR MORE INFORMATION.

Freese and Nichols, Inc.
Texas Registered Engineering Firm F- 2144

STATE OF TEXAS ROBERT E. HARRISON 112914 LICENSED PROFESSIONAL ENGINEER
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CITY OF AUSTIN
DAVIS WATER TREATMENT PLANT

ELECTRICAL
CHLORINE AND AMMONIA BUILDING
ONE-LINE DIAGRAM III

F&N JOB NO. AU120400
DATE 2/1/2021
DESIGNED MCD
DRAWN RLP
CHECKED REH

NO.	ISSUE	BY	DATE	REVISED
-				

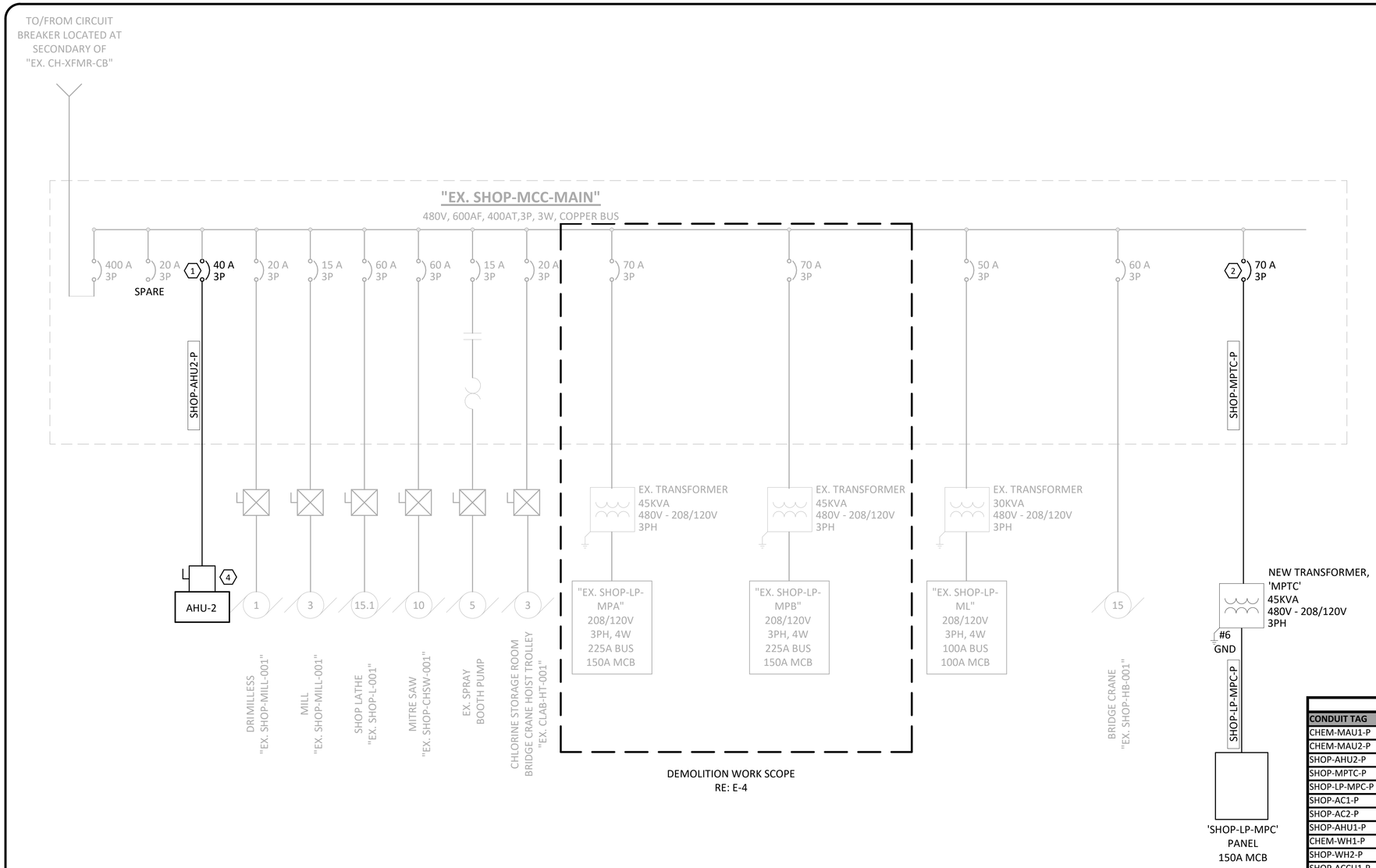
FILE NAME EL-AU120400-R19

VERIFY SCALE Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.
0 1

SHEET E-12
SEQ.

ISSUE FOR BID

Plot Date: 2/1/2021 1:02:56 PM



1 ONE-LINE DIAGRAM IV
NOT TO SCALE

GENERAL NOTES:

1. INFORMATION ON THIS ONE-LINE WAS BASED ON RECORD DOCUMENTS AND FIELD SURVEY NOTES PROVIDED BY OTHERS. FIELD VERIFY ALL EXISTING LOADS PRIOR TO PERFORMING NEW WORK.

2. PRIOR TO ADDING NEW LOAD TO DISTRIBUTION PANELBORARDS 'EX. SHOP-MCC-MAIN', CONTRACTOR WILL BE REQUIRED TO MONITOR THE DISTRIBUTION PANELBOARDS IN ACCORDANCE WITH NEC 220.87 (METER AT 15 MINUTE INTERVALS FOR 30 CONSECUTIVE DAYS). IF CONTRACTOR FINDS THAT THE MEASUREMENTS EXCEED 80% OF THE PANEL AMPERAGE OF 400 AMPS, THEN THE CONTRACTOR SHALL CONTACT THE ENGINEER OF RECORD TO DISCUSS OTHER OPTIONS.

NOTES BY SYMBOL "⬡"

1. REMOVE EXISTING 70A/3P CIRCUIT BREAKER AND REPLACE WITH A NEW 40A/3P CIRCUIT BREAKER TO FEED NEW AHU-2. FIELD VERIFY EXISTING CONDITIONS PRIOR TO FINAL ROUGH-IN.

2. REMOVE EXISTING 15A/3P CIRCUIT BREAKER AND REPLACE WITH A NEW 50A/3P TO FEED NEW TRANSFORMER 'MPTC'. FIELD VERIFY EXISTING CONDITIONS PRIOR TO FINAL ROUGH-IN.

3. PROVIDE A SPARE BREAKER TO EXISTING 20A/3P CIRCUIT BREAKER WHICH IS NOT IN USE.

4. DISCONNECT SWITCH PROVIDED WITH MECHANICAL EQUIPMENT AND INSTALLED BY ELECTRICAL CONTRACTOR. COORDINATE WITH MECHANICAL SCHEDULE FOR ADDITIONAL INFORMATION.

CONDUIT/WIRE SCHEDULE

CONDUIT TAG	CIRCUIT BREAKER SIZE	SIZE	CABLE/WIRE DESCRIPTION
CHEM-MAU1-P	100A/3P	1 -1/4"	3#2, 1#8G.
CHEM-MAU2-P	50A/3P	1"	3#6, 1#10G.
SHOP-AHU2-P	40A/3P	3/4"	3#8, 1#10G.
SHOP-MPTC-P	70A/3P	1-1/4"	3#4, 1#8G.
SHOP-LP-MPC-P	150A/3P	1-1/2"	4#1/0, 1#6G.
SHOP-AC1-P	60A/2P	1"	2#6, 1#10G.
SHOP-AC2-P	70A/2P	1-1/4"	2#4, 1#8G.
SHOP-AHU1-P	50A/2P	1"	2#6, 1#10G.
CHEM-WH1-P	40A/2P	3/4"	2#8,1#10G.
SHOP-WH2-P	40A/2P	3/4"	2#8,1#10G.
SHOP-ACCU1-P	30A/2P	3/4"	2#10, 1#10G.

ELECTRICAL LOAD ANALYSIS - EX. "MCC" (MAINTENANCE BLDG.)
(480/277V, 3PH, 3W, 400A Main)

Load Description	kVA
Existing load based on nameplate data	12.1 kVA
Existing load based on breakers size for unknown load	55.0 kVA
NEW LOAD	
AHU-2	25.9 kVA
New transformer(45kVA)	37.2 kVA
(feeds AHU-1, AC-1/2, ACCU-1 &	
WH-2)	
Sub-total:	130.2 kVA
@ 480V/3PH	157 Amps

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CITY OF AUSTIN
DAVIS WATER TREATMENT PLANT

ELECTRICAL
MAINTENANCE BUILDING
ONE-LINE DIAGRAM IV

F&N JOB NO. AU120400
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SHEET E-13
SEQ.

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